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1, WIMPOLE STREET.

For DIARY of MEETINGS see page 1448.

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The Fellows' new Library and Offices of the Society will be RE-OPENED at the Society's new house (No. 1, WIMPOLE ST., W.), at 11 A.M. on WEDNESDAY, 29th MAY.

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A GENERAL MEETING of the Fellows will be held in the ROBERT BARNES HALL, at the Society's New House, No. 1, WIMPOLE STREET, W., on THURSDAY, MAY 30th, at 5 P.M.,

(1) To Inaugurate the Business Meetings of the Society;
(2) To Receive a General Financial Statement as to the Cost of the New Building and Furnishing; and
(3) To Afford an Opportunity to Fellows to Inspect the New Building.

Tea will be provided at 4.30 P.M.

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Selecta Therapeutica

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HOEFFTCKE'S EXTENSION APPLIANCES.

AMBULATORY TREATMENT OF FRACTURE OF THE LIMBS, TUBERCULOUS AND ARTHRITIC DISEASE OF JOINTS.

By C. A. HOEFFTCKE,
21, Woodstock Street, Oxford Street, London, W.
By Appointment to several Hospitals.

(*Continued from April 20th.*)

THE apparatus which I have designed for the Ambulatory treatment of fractured limbs must commend itself to the medical profession, providing as it does an adequate and secure means whereby the patient is enabled to walk on the injured limb during the time the fracture is uniting. The appliance has mainly two objects—i.e., to transmit the weight of the body on to the tuber ischia and surrounding gluteal muscles and to keep the bones in perfect position. At the same time the patient is permitted to walk about in comfort, and there is no danger of atrophy of the muscles or stiffness in the joints. It is, moreover, distinctly to the benefit of patients to be able to dispense with the necessity of lying up while the bones are uniting. Also there are no troublesome after-effects so detrimental to the general health of the patient and very often experienced where recumbent treatment has been employed.

The upright position of the patient allowed by the application of the apparatus admits of the blood circulating freely, which furthers the forming of callus and leads to a more speedy recovery of the functions of the limb.

The application of this appliance has also been very successful in the treatment of fractures where the bones have been plated (see Operative Treatment of Badly United Fractures, LANCET, Nov. 4th, 1911).

The splint is lightly constructed and can be worn under the usual clothing without being patent to the ordinary observer.

I shall always be pleased to send a detailed description with illustrations upon application, but in no case do I supply an appliance without medical supervision.

Sir F. Y. (æt. 48).—The history of the case is as follows. The patient was flung out of a motor-car in June, 1911, whilst being run into by another, the leg striking the screen and the ankle presumably a stone on the side of the road. Unfortunately, as the fracture was a compound one, the wound was much soiled by earth and grass.

The bones were wired by a Belgian surgeon, but as the wound suppurated the patient was brought back to England and the wires taken out by an English surgeon.

This surgeon called on me to put the leg in plaster, but as no X-ray photo was taken I suggested my splint so as to enable the surgeon to control the position of the bones and to dress the wound. This suggestion was acted upon, and on the 4th Sept., 1911, I put my splint on. An X-ray photo was taken with leg in splint (see Fig. 1) which shows the ends of the fibula overlapping by about three-quarters of an inch, the fragments of the tibia being separated about a quarter of an inch.

When attempts were made to walk it was found that the foot was fixed in the equinus, and every step reacted on the fractured bones. I suggested to wrench the ankle joint with the help of the extension arrangement of the splint and to improve the position. The foot was wrenched on 11th Sept., 1911, under an anæsthetic, with very good result, and three days afterwards another X-ray photo was taken, which showed a better position of the fragments and a good deal of extension between the astragalus and the condyles of tibia and fibula. In this photo it was observed and verified with the former one that both malleoli had been fractured at the time of the accident (but had united in a very good position), which accounted for the pain in the joint of which the patient had complained since the accident, and also for the fibrous ankylosis of the ankle-joint.

The second day after the wrenching the patient commenced to walk, and progress was steadily made until 30th Oct., 1911, when another X-ray photo was taken, which showed that the fibula had united, but that the tibia showed hardly any sign of callus forming. It also showed plainly that a small sequester was wedged in between the fragments, which had not absorbed, contrary to expectation. This sequester was removed on the 2nd Nov., and from that time on the bones commenced to unite, and the wound, which had refused to close, began to heal. The leg, which was atrophied through inactivity before my splint was applied, began to regain its normal shape.

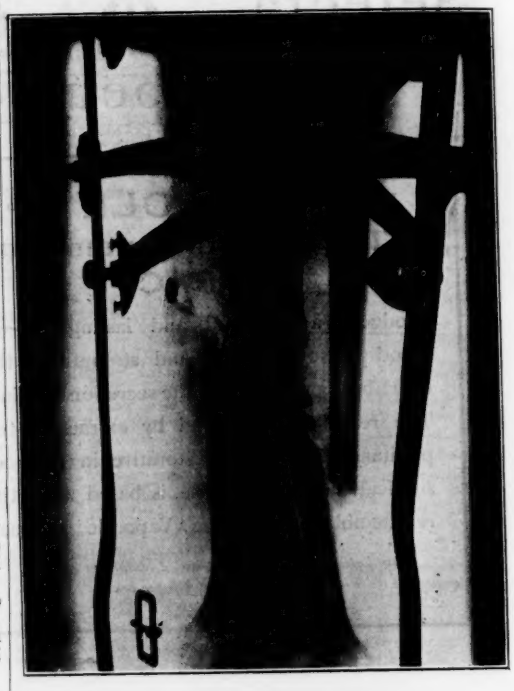


FIG. 1.

On 22nd Dec. another X-ray photo showed a great amount of callus in the gap between the fragments of the tibia, and on the 15th Jan. the bones were united and the splint taken off. The patient was able to walk on the leg without the help of a stick.

FIG. 2.

FIG. 3.

On the 10th of this month another set of X-ray photos were taken (see Figs. 2 and 3), which show that the gap between the fragments of the tibia has completely filled up, and the union, which is absolutely bony, is very dense and strong; it shows also that the bones are in very good position.

This case shows, indeed, the advantage of enabling a patient with a fractured leg to walk about while the fracture is uniting instead of keeping the patient in bed. Not only that the patient's health keeps good, but the forming of callus is intensified by the exercise and dependent position of the leg, which allows the blood supply to do its work.

(*To be continued June 22nd.*)

The Annual Oration
ON
FERTILISATION IN RELATION TO PATHOLOGY.

Delivered before the Medical Society of London on May 20th, 1912,

BY JOHN BLAND-SUTTON, F.R.C.S. ENG.,
SURGEON TO THE MIDDLESEX HOSPITAL.

MR. PRESIDENT AND GENTLEMEN,—Nothing which came under my observation in childhood left a deeper impression on my mind than the realisation of the fact that the tadpoles, which swarmed in the ditch bordering my playground, came from the frog's spawn, so conspicuous in that ditch in the early days of spring. Many events, apart from watching the conversion of the aquatic tadpole into the amphibious frog, quickened my interest in the phenomenon of reproduction, including the development of worms, moths, fishes, reptiles, birds, and mammals, and the whole subject has retained for me a peculiar fascination. It is scarcely appreciated by men to-day that the human ovum was not discovered until 1827; this discovery (one of the greatest man ever made about himself) we owe to von Baer. So far as a man is concerned, the fundamental facts relating to the fertilisation of the ovum are matters of inference, for no one has witnessed the union of a spermatozoon with a human ovum. Our knowledge of the development of spermatozoa (spermatogenesis) is founded, so far as mammals are concerned, mainly on observations made on the testes of rats. We know less of the development of the sperm than of ova, but no one denies that a new human being is the result of contact of an active mobile spermatozoon (microgamete) with a passive yolk-laden ovum (macrogamete). After these dissimilar gametes have met the resulting body, known as the cösperm or zygote, begins to segment, and under favourable conditions produces an embryo.

It is worth bearing in mind that a spermatozoon is the most easily identified of all varieties of the epithelial cell, whereas the virgin human ovum has no specific characters; it is usually recognised by its situation in the reproductive tissues. Some years ago, as a matter of routine, I slit up many Fallopian tubes, removed in the operations of hysterectomy and ovariotomy, and scrutinised their contents with a microscope in the hope of detecting ova in them. I satisfied myself that the old idea of the regular shedding of a ripe ovum once a month by healthy women had no foundation in fact; ova are shed frequently, and it is probable that the Fallopian tubes of a mature woman are rarely without a ripe ovum. On one occasion after removing a uterus containing fibroids, one of which obstructed the uterine end of a Fallopian tube, I found a recess in the tube lined with mucous membrane containing a number of cells any one of which would pass for a ripe ovum. The difficulty of distinguishing a free ovum applied in this instance with great force. I do not know an absolute test.

GAMETIC ATTRACTION.

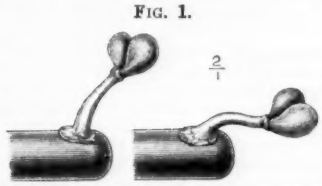
Every thoughtful man must have asked himself the question, What is the power which leads a spermatozoon to an ovum? The usual description of fertilisation leaves an impression on the mind that when environment is favourable, and the genital passages of the female contain spermatozoa, a meeting between an ovum and a spermatozoon is a casual affair. This is far from being the case; ova and spermatozoa are powerfully attracted to each other within short distances by some force of which we know very little, and which we may conveniently call *gametic attraction*. Observers who have studied the fertilisation of eggs laid in water notice that when a mature ovum is brought into the vicinity of sperm the spermatozoa are influenced by its presence to direct themselves towards it, and make energetic swimming efforts to reach it.

Gemmill in his description (1912) of the development of the starfish, *Solaster endeca*, describes the process of spawning. A female and a ripe male were in a tank, and whilst the female starfish was shedding ova, the male, resting near the side of the tank about two feet distant, sent out thin streams of sperm. Although the eggs are much too large and opaque to allow the process of fertilisation to be watched under the microscope, it could be readily seen that they attract the sperm strongly as soon as they are shed.

Botanists tell us that the spermatozoids of ferns are capable of spontaneous movements through water, and there is some influence in the neighbourhood of the egg-cell which attracts these mobile spermatozoids. In the mature archegonium of mosses some of the cells in the canal leading to the egg-cell yield cane sugar which, diffused in the water, exerts an attractive stimulus on the spermatozoids. It is probable that the movements by which spermatozoids approach the female organs are chemotactic. The following simple experiment, which I owe to Mr. J. B. Bergheim, is of the same class:—

Take a full blown flower of the beautiful orchid *Odontoglossum grande* and with a pointed stick or pencil extract its pollinia in the manner described by Darwin. The pedicel carrying the pollinia sticks so firmly to the pencil by means of its adhesive disc that in half a minute

FIG. 1.

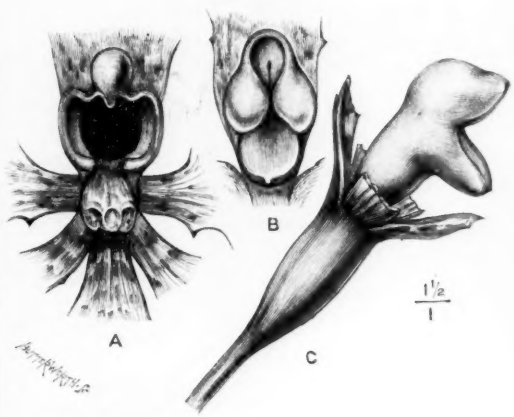


The pollinia and pedicel of the orchid *Odontoglossum grande*. Immediately after extraction and after the "act of depression."

it is difficult to detach it without damage, but if the pollinia immediately after the act of depression be brought in contact with the viscid stigmatic surface of another ripe flower of the same species, they instantly adhere and leave the stick without damage; indeed, in some instances the pollinia and the pedicel supporting them leave the pencil with alacrity. If the adhesive matter is allowed to harden firmly, then, when the pollinia are presented to the stigmatic surface, they become detached from the pedicel which remains fixed to the stick.

The changes which follow the pollination of the odontoglossum are represented in Fig. 2. They are worth following.

FIG. 2.



The essential sexual organs of *Odontoglossum grande*. A, Before pollination. B, Seven days after pollination. C, Lateral view of the ovary one month later.

The ripe sexual parts are shown at A; after receiving a pollinium they gradually approximate, B; the petals and the labellum quickly fade, and a few weeks later the ovary is enlarged, C. The ovary continues to increase in size and five months later has the appearance shown in Fig. 3.

If we knew the force which impels the spermatozoon to seek an ovum many facts would be plain in pathology. We should know how the embryo of the guinea-worm recognises its host the water-flea (*Cyclops*), and the embryo of the liver fluke the pond snail. A hundred similar examples could be adduced from the natural history of parasites.

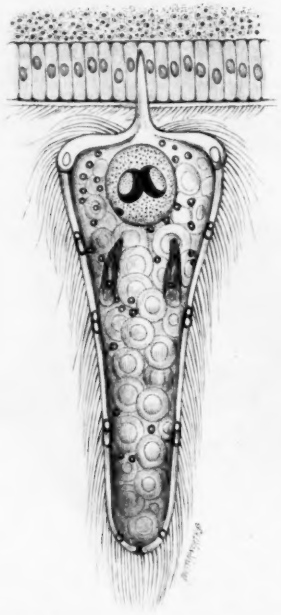
The selective power possessed by the embryo of the liver fluke (*Fasciola hepatica*) for the pond snail (*Lymnæa truncatula*) has been graphically described by Thomas. The ciliated

FIG. 3.

A, The ovary of *Odontoglossum grande* five months after pollination. B, The shrunken remains of the rostellum. The seeds require nine months for ripening.

embryo is exceedingly active, swims swiftly and restlessly through the water. Sometimes it goes directly through the water and then rotates on its longitudinal axis, just turning a little to one side as if seeking for something. When the embryo comes in contact with any object it pauses for a moment, and feels about as if trying to test its nature, and if not satisfied darts off hastily again. But if the object be a pond snail it at once starts to bore and forces its way into the tissues of the snail (Fig. 4). The embryo has been

FIG. 4.



An embryo fluke engaged in boring into the tissues of a pond snail. × 500. (After Thomas.)

tested with all the common forms of pond and river snails, but it refuses all except occasionally very young specimens of *Lymnaea peregra* and in this development was arrested at an early stage. It is remarkable that the embryo fluke should be so particular in its selection of a host, for if it is not successful in finding one it dies in eight hours. Whatever this remarkable force may be it has a human interest, for it is, doubtless, the same influence which leads some men to prefer brunettes and others blondes. If we understood it perhaps we should be able to explain why some blondes of delicate form and feature are fascinated by men of the type of Hercules and Vulcan, such as wrestlers, boxers, and blacksmiths, resisting the importunities of suitors possessing the attributes of Adonis.

The exquisite description furnished by Thomas of the manner in which the young fluke desperately hunts for a pond snail, is an admirable example of knowledge obtained by observation. Whenever reasoning is uncontrolled by facts imagination is apt to be riotous. An extraordinary example of the perfervid speculation is contained in the Sardinian Report on Cretinism (Turin, 1848), for the reporters seriously urge that a cretin may be due to sexual connexion between a man and a woman when one or both are drunk. The idea of an encounter between a jovial spermatozoon and a drunken ovum in the Fallopian alley is something peculiarly comic.

Although the idea of sex cells being influenced by the drunkenness of the individuals to which they belong sounds odd, there is no absurdity in the belief that morbid conditions of the parents influence egg and sperm. Those who have made prolonged and careful study concerning the possible causes of those malformations covered by the general term monstrosities, are unanimous in the belief that the general health of the parents influences the physical development of the offspring. A careful consideration of the facts also justifies the opinion that the union of gametes in a malign environment is often expressed by a malformed embryo. Experimental teratology not only supports this conclusion, but adds trauma as a cause of monstrosity. The observations of those biologists who have studied vegetable teratology offer testimony in the same direction

PARASITIC CASTRATION.

A good example of disturbed metabolism leading to changes in the sexual glands, and in the secondary sexual characters, is that known as parasitic castration, discovered, in 1887, by Giard. This matter has been particularly studied in the spider crab, *Inachus*, and in the hermit crab. The facts are briefly these:—

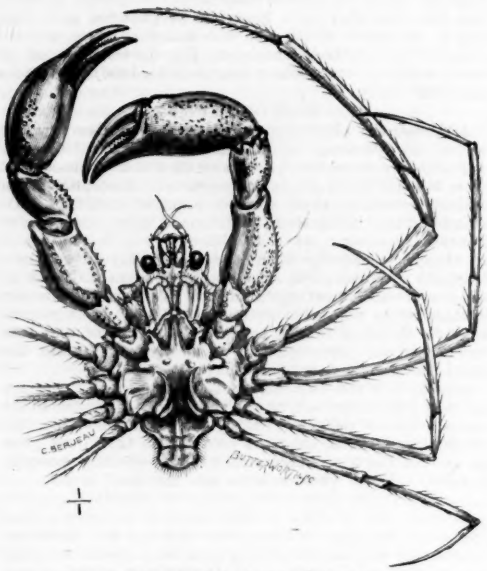
The male Inachus (Fig. 5) is furnished with long and swollen chelipedes; the abdomen is small and furnished with a pair of copulatory styles. In the female (Fig. 6) the chelæ are small and narrow, but she has a larger abdomen, which is trough-shaped and carries four pairs of ovigerous appendages. These crabs often harbour *Sacculina neglecta*, a peculiar barnacle, which has taken to live parasitically on the crab. When the sacculina is hatched it swims near the surface of the sea and becomes transformed into the well-known cypris larva. After living for a time a free existence it seeks out a crab and fixes itself by means of hooks to a hair on the crab and penetrates its base. The larva then discards its appendages and as a small mass of undifferentiated cells enters the crab's body, and reaches the space round the intestine usually near the stomach, and proceeds to throw out roots in all directions. When first discovered, sacculina being so unlike a crustacean, was regarded as a tumour by one naturalist and as a worm by another.

This invasion has extraordinary effects on the male crab, for it ceases to moult, the chelæ diminish in size, the abdomen broadens, ovigerous appendages appear and cause it to assume the external characters of the female crab. At one time, in consequence of these changes, it was supposed that sacculina only attacked female crabs. In the presence of the parasite the generative organs undergo degeneration and disintegration. The sequel is even more remarkable, for when the parasitic barnacle leaves its host the crab recovers, and, in the case of the male crab which has assumed female characters, the testis not only regenerates but becomes a true hermaphrodite gland capable of producing ova and spermatozoa. These remarkable changes have been especially studied by Geoffrey Smith.

It will at once occur to many that these observations have some bearing on the peculiar alterations of plumage seen in pheasants, peacocks, ducks, and chaffinches, in which the hen moults and without obvious reasons assumes the resplendent plumage, more or less complete, of the cock. Such birds are known as cock-feathered hens, and the change of plumage was supposed to depend on atrophy of the ovary. We know nothing concerning its cause, although many clever observers, including Hunter and Darwin, have considered it.

The changes which occur in the testis of a spider crab infested with sacculina whereby it becomes converted into a hermaphrodite gonad is a matter of great interest. The history of our own bodies teaches us that at an early stage the

FIG. 5.

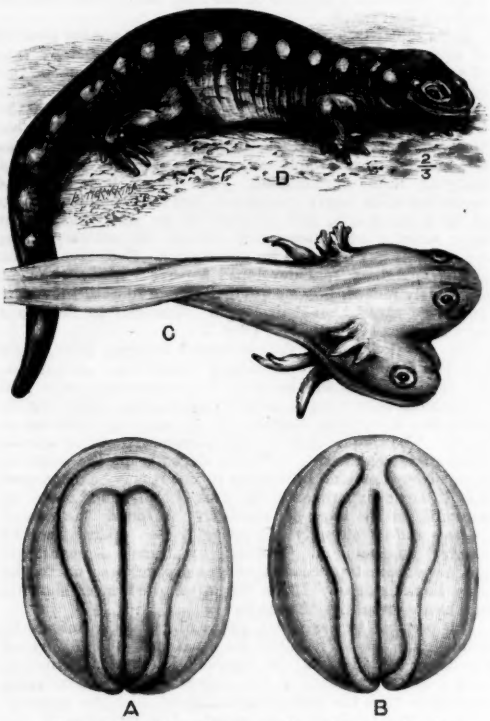


The spider crab (male), with large chelipedes, small abdomen, and the large copulatory styles.

FIG. 6.

Spider crab (female). The chelipedes are small and the abdomen broad. The ovigerous appendages are shown free on one side and on the other with eggs upon them.

FIG. 7.



A, Normal egg of the American salamander, showing the medullary folds. B, An egg with abnormal medullary folds from which the double-headed embryo, C, was formed. D, The adult form of the American salamander. (Figs. A, B, and C after Clark.)

FIG. 8.

Twin salmon embryos from a hatchery, showing monstrous development with one common feature, the yelk-sac for each monstrous form is single.

human embryo is hermaphrodite. When the gonad is an ovary the sexual organs assume the female type; when the testis predominates the male type prevails. At the very threshold of our practical acquaintance with human anatomy we learn that vestiges of the male reproductive organs are present in the female and many vestiges of the special female organs exist in the male; some are present in the gonad itself, whether it be an ovary or a testicle. It is an interesting fact that in the male spider crab the testis, under the influence of parasitism, can produce ova. Although there is an enormous distance between crustaceans and man, these observations do bear on those rare instances in which dermoids arise in the testicle, for these remarkable tumours in men and in horses, though usually described as testicular, really arise, as I have often pointed out, in the ovarian vestiges known as the rete testis.

OVARIAN DERMOIDS.

Apart from observations relating to "parasitic castration" some useful investigations have been carried out in the last twenty years, which throw some light on the curious tumours known as ovarian dermoids. In 1880 I saw for the first time an ovarian cyst containing hair, grease, and teeth. I have removed a great many since, but my interest in them persists. Thirty years ago all tumours containing cutaneous structures growing in divers parts of the body were called dermoid cysts; I soon recognised that such tumours were sufficiently important to form a group. Dermoids which arise in the ovary differed in so many particulars from those found in other parts of the body as to demand a genus to themselves. Whilst investigating the structures in ovarian dermoids, I found and described the bodies now familiarly known as "ovarian mammæ," and exhibited a series of cysts containing them to the Pathological Society in 1888. About ten years afterwards Wilms published his investigations on dermoids, which modified current views on these tumours, for he showed that the curious nipple-like processes, and mammary structures, which he named embryonal rudiments, were important elements. Every dermoid, or embryoma, as they are now called, consists of a cyst and an embryonal rudiment. The wall of the cyst is of fibrous tissue, and at one part of its inner wall presents a skin-covered surface beset with hair: the embryonal rudiment appears as a nipple-shaped process projecting from this skin-covered surface. Its size varies greatly, for often it is so inconspicuous as to be easily overlooked, or it may be big enough to strike the eye of the least observant. The cavity which contains the embryonal rudiment is filled with oil, grease, or lumps of suet mixed with hair and epithelium shed from the cutaneous surface. Some embryonal rudiments are more complex and contain such organs as a thyroid gland, fibrous or osseous capsules lined with pia mater and filled with nerve tissue. On two occasions an organ like an eye has been found with a cornea, an anterior chamber, and a cavity lined with the conspicuous black uveal tissue (Baumgarten, Frankland, and Cleland). Organs obvious to the meanest intelligence are bones, cartilage, and teeth; less obvious than these is mucous membrane such as occurs in the intestine (Frank, Shattock, and Williamson).

We have been contented in the past with an examination of these bodies by means of microscopic sections, but Shattock, in a brilliant investigation, has shown that when some of these embryonal rudiments are studied by dissection rather than by thin sections, organs may be identified in them. In one example he found nervous matter present in the form of a thin-walled sac; the inner wall of this sac was lined with columnar epithelium and the halves of a spinal cord lay on each side of it. This hydromyelic sac represented the dilated central canal (syringomyelia) of an imperfectly developed spinal cord. In another cyst he found a smooth-walled cavity containing a blind coil of gut possessing the structure of small intestine. I have often pointed out that nearly all the organs found in ovarian dermoids are of epiblastic origin. Organs such as lung, liver, and kidney have never been found. This serves to distinguish ovarian dermoids from the teratomatous representatives of conjoined twins.

The great principle underlying tumour formation conceived by Müller and established by Virchow postulates that every neoplasm, using this term in its strict pathological sense, arises from pre-existing tissue of the same structure. We must seek a reason for the presence of primary tumours in the ovary containing teeth, skin, nerves, and intestine. The conclusion is plain; they are the products of a sex cell or ovum. From the earliest observations on ovarian dermoids the idea that they were imperfect pregnancies took deep root in the minds of the men who examined them, and the discovery of parthenogenesis, or the development of an ovum without impregnation (von Siebold, 1856), provided a plausible theory.

CONJOINED TWINS.

Although the observers who described ovarian dermoids before the discovery of spermatozoa regarded them as "imperfect pregnancies," they were careful to point out that these tumours could not be the products of conception in the ordinary sense, for some of them occurred in infants. On examining the "indigested and deformed lump," known as an embryonal rudiment, we have difficulty in believing it to be an embryo, especially when it contains only an eye, or a fragment of spinal cord, or a few teeth connected with an orifice representing perhaps a mouth. All these odd imperfections can be paralleled by twins. It is not an uncommon event for an ovum to give origin to two embryos, and both may attain full development, make their entry into the world, and survive as independent individuals.

Occasionally the twin embryos develop equally, but are partially joined together, and in this condition survive to the normal period of delivery. Many conjoined twins die in the course of being born, but a few escape with their lives, grow up, and in due course earn money for enterprising showmen as freaks. When twin embryos are conjoined it does not necessarily follow that each goes on to full development; occasionally one of them is represented by a shapeless mass attached to its brother or sister as the case may be. Matthews Duncan tells of a case in which a parasitic fœtus of this kind was attached to the buttocks of a young man, occupied as a clerk, who spent the greater part of the day sitting on his sadly deformed twin brother. A shrunken parasitic fœtus stuck on an otherwise well-formed individual recalls the delightful conception of Thackeray in the story of "The Rose and the Ring," wherein the porter, Jenkins Gruffanuff, is transformed into a knocker on the front door for his rudeness to Fairy Blackstick.

Embryologists agree that conjoined twins are the product of a single egg. A strong body of circumstantial evidence of a most convincing kind can be adduced in support of this opinion. Moreover, the development of a double embryo from a single egg has been actually witnessed in the case of a batrachian. In the spring of 1879 Clark of Boston had in his aquarium two or three thousand eggs of the American salamander, *Amblystoma punctatum*, for the purpose of studying their development. He found one with the medullary folds nearly completed, but they had not united at the cephalic end, and appeared to be much rounded at their anterior ends instead of having the ordinary vague outlines; it was set apart for observation. Each free portion of the medullary fold developed a perfect head, which at first partly united, became gradually more so until they were connected throughout their length. Posterior to the heads were no signs of duplicity. (Fig. 7.)

The development of double-headed embryos from single eggs is a frequent event in salmon hatcheries. An instructive series is shown in Fig. 8, comprising twins and bicephalous salmon fry in various stages of dichotomy, but all exhibiting a common feature, for in each the yelk sac is single. The frequency of such malformation among salmon obtained in hatcheries probably depends on the artificial mode of fertilisation. In relation to this it may be mentioned that in some experiments on cross-fertilisation made by Gemmill on the eggs of starfishes he found the ova of *Solaster endeca* strongly attractive to the spermatozoa of *Solaster papposa* and fertilised by them; segmentation and development proceeded in some specimens up to the early larval stages. Later the larvæ died after showing various abnormalities of growth.

It is possible to arrange a series of parasitic fœtuses so rudimentary as to parallel the confused and ill-shaped "embryonal rudiments" so common in ovarian dermoids. Such a series and such a comparison make the conclusion irresistible that the embryonic rudiment, like the parasitic fœtus, is the product of an ovum. The structure of the embryonal rudiment supports, in a measure, the opinion that it is an embryo arrested at an early stage of its development. The frequent presence of nerve tissue, neuro-epithelial elements, and ocular tissues is not surprising, because the neural tube from which the spinal cord, brain,

and ophthalmic cups are formed is an early and conspicuous structure in all mammalian embryos.

TRAUMATIC PARTHENOGENESIS.

At the outset I laid special emphasis on the fact that our knowledge of the fertilisation of mammalian ova is derived from observation made on the eggs of low animal forms. We have been too long satisfied with the opinion that it is only the contact of a spermatozoon which will start an ovum on its extraordinary career of development, but there are other stimuli which will induce a mature ovum to segment. Loeb's experiments show that the mature eggs of starfishes can be made to develop by the addition of soda water to the sea water of the aquarium, or by mere shaking (shock fertilisation).

Professor Bataillon, Dean of the Faculty of Science, Dijon, has succeeded in inducing complete embryogenesis by puncturing the virgin eggs of frogs with exceedingly fine metal stylets. The eggs were obtained from the common grass frog *Rana temporaria*. The frogs were carefully washed in water saturated with bichlorides to prevent any accidental contamination with spermatozoa. The instruments used were sterilised in a flame immediately before use. The eggs, after removal from the oviduct, were placed in flat-bottomed receivers and covered with water at 15° C. Each egg was then punctured by a short stylet made of glass, manganin, or platinum, varying in thickness from 20 to 30μ. A slight track in the egg marked the line of puncture. In making the puncture Bataillon aimed to get at the egg at a point excentric of the black hemisphere. The punctured eggs were covered with water, and effected their rotation in 45 minutes, so that the black spheres were uppermost as in normally fertilised eggs, whilst the virgin unpunctured eggs were disposed irregularly. Four hours later segmentation began in the eggs and proceeded as quickly, and in one-third of the punctured eggs as regularly, as in eggs normally fertilised, but arrest of development takes place at all stages. In 10,000 eggs which he punctured three developed complete tadpoles (Fig. 9). Bataillon

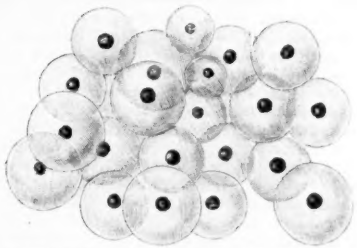
FIG. 9.

Three tadpoles produced by traumatic parthenogenesis. The tadpole near the top of the vase was the result of an experiment performed on March 9th, 1910; it died on June 18th, 1910, in consequence of shock due to changing it into the jar for the purpose of being photographed (after Bataillon).

states that the critical period for a tadpole produced in this way is when the tail begins to regress. The consideration of these experiments must make us think that if the eggs of human beings were as big as those of the grass frog many problems in human embryology would be less misty than they are to-day (Fig. 10).

The consideration of traumatic parthenogenesis would not be complete without reference to the conduct of the chromosomes in the cells of these segmenting eggs. All animal cells contain in their nuclei a definite number of chromosomes, and though the number varies in different species of animals it is constant for a given species, but the number of chromosomes in an ovum during its maturation is reduced one-half; they are also changed in character. A similar condition exists in the spermatozoon, but when the ovum and spermatozoon unite and form an oosperm or zygote the number of the chromosomes in the zygote equals that of the somatic cells. The significance of the change is not understood, but it has served as a text for much vague speculation, especially in relation to sex and heredity.

FIG. 10.



Eggs of the grass frog (*Rana temporaria*). (Natural size.)

It has been ascertained that the chromosomes in the parthenogenetic larva of frogs are of the reduced type. This is a matter of interest and probably explains the failure of Bataillon's method to produce complete frogs. It also helps us to understand the incompleteness and the unlikeness of the embryonal rudiment to a human fœtus, in spite of the high standard occasionally attained by its component tissues. It is undeniable that the organs existing in ovarian dermoids are rarely of the same completeness as those of parasitic fœtuses; the muscles even of a shapeless conglomerate twin, sessile on the sacrum of its autosite, will twitch when mechanically irritated, but no organ in an ovarian dermoid has ever been reported in a functional condition. This indicates the value of the spermatozoon for the production of a complete individual.

EPITHELIAL INFECTION.

No surgeon will deny that the ovarian dermoid in its common form is the most benign tumour that attacks women, but it is not to be forgotten that the epithelial elements of such tumours often possess remarkable vitality which is occasionally manifested in a curious way. At least half-a-dozen cases have been carefully reported where such a tumour has been burst by violence, and its pultaceous contents—hair, grease, and epithelium—spread far and wide through the abdominal cavity. (In one instance, described by Randall and Lawrence in 1908, the leakage occurred from a hole made in the procedure known as tapping.) Some of the epithelium engrafted itself on the peritoneum, so that in the course of an operation performed for the purpose of removing the tumour, the surgeon has found the serous surface of the viscera and the omentum beset with nodules, many of them possessing a tuft of hair. These epithelial weeds, to use an agricultural term, differ from those secondary nodules which are such a common feature of cancerous infection of the peritoneum, for they remain as grafts upon the serous membrane, and do not penetrate the underlying tissues nor display the invasiveness which is such a marked feature of the cancerous nodule. This induced me to apply the term *epithelial infection* to this phenomenon. One of the earliest examples was described in 1867 by Moore, and the specimen is preserved in the museum of the Middlesex Hospital.

I have satisfied myself that it is not an easy matter for dermal cells to engraft themselves on the peritoneum: these elements may be loose in the abdominal cavity for a long period and fail to become engrafted. Lucy recorded a striking case in which an ovarian dermoid leaked and distended the abdomen of a woman with the usual sebaceous paste; the abdomen was so full that the mass pitted as if it were plastic clay when pressure was made upon it with the finger. At the operation he removed 11 lb. of the pultaceous sticky stuff. In spite of this prolonged contact of such a large amount of epithelial material with the peritoneum there were only two grafts.

A critical study of cases in which this peculiar epithelial infection has occurred led me to express the opinion, in

1896, that the facts pointed in the direction of occasional malignancy, but a further study of this matter in the wards, post-mortem room, and laboratory convinced me that the innocency of these tumours could not be impeached with the scanty and unreliable evidence available at that time. I thought that the few examples which had been published where small dermoids were found on the peritoneum could be regarded as examples of epithelial infection.

MALIGNANT TERATOMA.

We know now beyond any doubt of a variety of the ovarian embryoma (or teratoma) in which malignancy is displayed in a very intense form. This tumour occurs in girls and young women as a solid or semi-solid mass, and rarely attracts attention until an increase in the size of the abdomen is noticed by the patient or her relatives. The tumour grows quickly, disseminates like cancer, recurs very rapidly after removal, and destroys life in a few weeks or months. No tumour is more deadly, not even a periosteal sarcoma of the femur or of the humerus. These malignant ovarian teratomas consist of a hotch-potch of embryonic elements of various kinds, such as epithelium, neuro-epithelium, pigmented retinal cells, enamel organs, dentine papillæ, skin, hair, cartilage, ganglia, and medullated nerves. These tissues occur in the nodules which grow throughout the abdomen and in those which grow in the substance of the liver or the lungs. Details of at least 50 examples of the malignant ovarian teratoma are available for study; many of the tumours have been investigated by competent men.

The condition I had in my mind that led me, in 1896, to express my belief in the innocency of the cystic variety of ovarian embryomas was the alleged occurrence of cancer in the embryonal rudiment, especially the ovarian mamma. Several surgeons interested in the pathology, as well as in the surgery of ovarian tumours, sent me occasionally descriptions and sections of specimens which they believed were examples of carcinoma arising in ovarian dermoids. In all the specimens submitted to me none would bear this interpretation, and my opinion has been supported by the subsequent histories of the patients. In 1897 Professor Yamagiva (of Tokio) described a cystic teratoma of the ovary containing a mamma which he believed had become cancerous, but the evidence is by no means convincing. Since that date we have become familiar with a subtle form of cancer dissemination known as implantation.

IMPLANTATION CANCER.

When a woman is attacked by cancer in the gastro-intestinal tract, gall-bladder, breast, or Fallopian tube, the cancerous cells permeate the adjacent tissues, and are shed into the abdominal cavity; these cells floating in the peritoneal fluid are dispersed throughout that cavity. If the woman be so unlucky as to have an ovarian cyst or a dermoid in her pelvis, some of the cells will be deposited on the cyst-wall, and some of them will grow and form blocks of secondary cancer. I exhibited and described several specimens of implantation cancer to this society in 1910. Large numbers of cancerous cells which are shed into the abdominal cavity perish, for the peritoneum exercises a defending or prophylactic power against such marauders, but the ovaries are more easily colonised as they lack a peritoneal investment.

This new knowledge concerning the deposition of cancerous cells on normal ovaries, as well as on ovarian cysts, is of importance, because it renders previous records relating to specimens of primary ovarian cancer of no account. In future descriptions it will be essential for the recorders to furnish evidence that there was no primary cancerous focus in the stomach, big intestine, gall-bladder, breast, or Fallopian tubes. A very small primary cancerous focus in the colon, though it has produced a big block of cancer in an ovarian cyst, will sometimes elude the surgeon's fingers and eyes in the course of an operation. Such small contracting cancers later cause intestinal obstruction, and are found in the course of a colotomy, or at a post-mortem examination, weeks or months after an ovariotomy.

In considering primary cancer of the ovary and in ovarian dermoids we have to clear away old records and begin anew. The distinction between a cystic ovarian embryoma and a malignant teratoma is as sharp as the difference between a simple chondroma and a chondrifying sarcoma, but there are, as in other genera of tumours (except lipomas) described as innocent, gradation forms by which we pass from species of undoubted innocency to others of the most pronounced malignancy.

Every surgeon has pondered often and long on that common feature of cancer known as dissemination, wherein the histological peculiarities of the primary tumour are reproduced in the secondary nodules; but the nodules due to the dissemination of malignant teratomas contain such structures as hair, skin, nervous tissue, and embryonic teeth. These can only come from the activity of a developing ovum. We know that micro-parasites can stimulate growth in epithelial cells, and it is possible that benign ovarian dermoids and malignant teratomas express variations in the effects produced by minute agents, which are able to provoke segmentation in mature ovarian ova, though in a more subtle way than Bataillon's stylets.

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THE CLINICAL DIAGNOSIS OF MALIGNANT DISEASE OF THE BODY OF THE UTERUS.[1]

BY THOMAS WATTS EDEN, M.D. EDIN., F.R.C.S. EDIN., F.R.C.P. LOND.,

SURGEON TO THE CHELSEA HOSPITAL FOR WOMEN; OBSTETRIC PHYSICIAN TO CHARING CROSS HOSPITAL; PHYSICIAN TO QUEEN CHARLOTTE'S HOSPITAL.

THE recognition of malignant growths of internal organs is proverbially difficult, and the body of the uterus is no exception to the general rule. It is important to remember that some assistance may be obtained from a knowledge of the general conditions under which it is likely to be met with, and I shall therefore first ask your attention to certain points bearing upon the general incidence of malignant disease affecting the uterine body.

I.—*General Incidence of Malignant Disease of the Uterine Body.*

Three varieties of malignant new growths are known to occur in the body of the uterus; they are carcinoma, sarcoma, and chorion-epithelioma. The latter is a very rare tumour, and the circumstances of its origin differ so widely from those of the other two that for purposes of this lecture it may be excluded from consideration. Carcinoma and sarcoma are, however, not infrequent, and being allied both in their clinical features and in the circumstances of their origin, may be conveniently considered together.

It is well established that the uterus is an organ especially prone to become the seat of cancer; in the female the two organs which show the greatest predisposition to cancer are,

[1] A lecture delivered at the Medical Graduates College and Polyclinic, London, on March 11th, 1912.

first, the breast, and second, the womb. From a study of the cancer statistics of large clinics it appears that the uterus is the organ primarily attacked in 30 per cent. of all cases of cancer in women. The great bulk of cases of uterine cancer arise in the cervix; it appears that something like 15 cases of cancer of the cervix occur to 1 case of cancer of the body. In addition to relative frequency, the subjects of cancer of the cervix show definite points of distinction from those of cancer of the body in respect of age and of fertility, and probably of social environment also. I have looked over all my cases of uterine cancer of which adequate notes have been preserved, in order to state these points of difference in terms of my own experience.

I found that the average age was in cancer of the cervix 45 (individual limits 26 to 77), in cancer of the body 55 (individual limits 47 to 73). The average number of children borne was, in cancer of the cervix 4·1, in cancer of the body 1·1; or the same conclusion may be differently expressed by stating the proportion of nulliparæ—viz., 9 per cent. in cancer of the cervix, 50 per cent. in cancer of the body. These figures closely correspond with those obtained from large numbers of collected cases, and are probably fairly accurate.

The effect of social environment is much more difficult to determine or to state precisely, and there are no statistical data in existence, so far as I am aware, which bear upon this point; but I have made a rough estimate by comparing, in my own experience, the proportion of cases of each disease seen in hospital practice and in private practice respectively. I find that in my cases of cancer of the cervix 10 were seen in hospital practice to 1 in private; in my cases of cancer of the body 3 were in hospital practice to 1 in private. One man's experience of a disease so infrequent as this is, of course, insufficient to allow of reliable inferences being drawn, but these figures support the view, previously advanced by Sir William Sinclair and others, which I share myself, that cancer of the cervix is a disease which falls with especial weight upon the poorer classes, and it is, therefore, probable that poverty and insanitary conditions of life are predisposing causes of its occurrence. My impression is, although I admit that I am unable to prove it, that this is not the case with cancer of the body.

It will be agreed that these points justify us in regarding cancer arising in the body of the uterus as a clinical entity, differing from cancer arising in the cervix in its relative infrequency, in attacking women of a lower degree of fertility and of a more advanced age, and in showing no special relation to poverty and insanitary conditions.

Sarcoma of the body of the uterus is very much rarer than carcinoma of the body, the proportion being probably about 40 of the latter to 1 of the former. These two new growths can only be distinguished from one another by microscopic examination, and for clinical purposes we may consider them together, for the symptoms of the one are indistinguishable from those of the other. The age incidence is much the same as in carcinoma, except that a few cases occur in infancy or childhood.

One other point in the general relations of these malignant new growths remains to be mentioned, and that is their association with fibroids. This association has been worked out mainly in connexion with fibroid tumours removed by hysterectomy, systematic histological examination in large clinics having shown that cancer occurs either in the cervix or the body in 3 to 4 per cent. of uteri removed for fibroids. In the same manner it has been shown that in uteri which are the seat of fibroid tumours, cancer occurs in the body twice as often as in the cervix—a very remarkable reversal of the usual relation. From these results the somewhat alarming inference has been drawn that fibroid tumours predispose to the occurrence of cancer, and that in such cases the seat of election is the body, not the cervix.

In my opinion, however, this conclusion cannot fairly be drawn. It must be recollected that the figures given are operation statistics only—i.e., they relate only to fibroid tumours which have given rise to symptoms sufficiently pronounced to call for radical operation. Not all fibroid tumours are removed by hysterectomy; there remains a large but indeterminate proportion which are either removed by myomectomy, or escape discovery, or which give rise to so little disturbance that, although recognised, they are not removed. If the incidence of cancer in all cases of fibroids could be determined, the results would certainly be very greatly modified, and the apparent special predisposition of the subjects of fibroids to uterine cancer might disappear.

The relatively high proportion of corporeal, as distinguished from cervical, cancer in association with fibroids is not affected by this consideration; but there is a further point to be borne in mind on this head. A large proportion of fibroid tumours are removed by the operation of supravaginal hysterectomy—i.e., the cervix is not taken away at all, and consequently it cannot be subjected to histological examination in the way that is possible with the body of the uterus. It is therefore quite possible that early cases of cancer of the cervix may be overlooked, when, for instance, they give rise to no alteration in clinical appearances; but all cases of cancer of the body must necessarily be discovered. This consideration detracts considerably from the conclusion which might be hastily drawn from the figures quoted above, that fibroids specially predispose to the occurrence of corporeal cancer.

Inasmuch as fibroid tumours predispose to absolute or relative sterility, and women suffering from cancer of the body also show a low degree of fertility, it is inherently probably that the two conditions will not infrequently be found associated with one another, and this without necessarily involving any kind of dependence of the cancer upon the pre-existing fibroid.

We may summarise our review of the general incidence of malignant growths of the uterine body thus: they especially affect women who are passing through, or have already passed, the climacteric age; women who are relatively or absolutely sterile are more likely to suffer than women with an average or a relatively high degree of fertility; women of the better classes are probably as liable as those of the poorer classes; the presence of a fibroid tumour does not predispose to the occurrence of malignant disease to any appreciable extent.

II.—*The Early Symptoms.*

We now turn to consider the symptoms to which these new growths (cancer and sarcoma) give rise in their early stages.

A point of the greatest importance is that the early symptoms are extraordinarily unobtrusive in their nature and insidious in their progress; even in advanced cases it is exceptional to meet with symptoms likely to be regarded by the patient as alarming or severe. Here we have one of the great diagnostic difficulties which are common, in some degree, to all forms of visceral cancer. Much has been said and written upon this point in connexion with cervical cancer; the difficulty is even greater in corporeal cancer, for the symptoms are less demonstrative, and their tendency to progressive increase in severity is less pronounced, while the seat of the disease is inaccessible to direct observation.

The first symptom to appear is almost invariably hæmorrhage, but at first so slight in amount that to the mind of the patient it appears to be of no importance. Sometimes it is accompanied or preceded by a thin or watery yellowish discharge. In many cases no other symptoms than these manifest themselves until the disease has spread beyond the limits of the organ primarily affected. In illustration of this point I may briefly relate two instances from my own experience; in Case 1 slight hæmorrhage continued for more than 12 months and in Case 2 for over two years before any other symptom appeared.

CASE 1.—Married woman, aged 56, who had never been pregnant; seen in consultation with Dr. W. G. Thorpe. The menopause occurred at the age of 51, and for four years subsequently she was quite well. About 15 months before I first saw her she noticed a slight blood-stained discharge, which occurred chiefly at night, and practically ceased during the daytime. At first irregular, after a time it became constant, and during the last two months the amount of bleeding had at times been fairly free. During the whole time the discharge was thin, red, and odourless; no yellow discharge had been observed at all. She made no complaint whatever of pain, and her general health had remained good. Latterly she had lost colour a little, and compared with 12 months previously she was half a stone lighter in weight.

I saw her first on Oct. 31st, 1911. On examination I found an irregularly enlarged uterus, and made out the presence of a small, hard fibroid in the anterior wall, and another smaller one in the left cornu; the remainder of the body of the uterus was enlarged and of softish consistence, sharply differing from the consistence of the fibroids. The mobility of the uterus was unimpaired. A fair amount of bright bleeding occurred during the examination, although no instrument was employed.

I had no hesitation in saying that I believed malignant disease was present in addition to the fibroids, and I advised immediate removal of the uterus. This was done on Nov. 16th, the operation performed being abdominal panhysterectomy, with removal of the tube and ovary on both sides. An enlarged gland was found belonging to the deep iliac chain in the bifurcation of the internal iliac artery; it was, however, so firmly adherent that its removal was impracticable

owing to its close relation to the large veins. The patient made an uneventful recovery from the operation.

The uterus was hardened before being opened, and one half of it has been mounted (Fig. 1). There is a small fibroid in the anterior wall; it is interstitial in position and on section its cut surface is healthy. The whole of the endometrium is covered with an irregular nodular growth which in parts has undergone considerable ulceration. There is a well-marked infiltration of the musculature, which is well seen at the fundus, where the uterine wall has been greatly reduced in thickness; the growth has also attacked the upper part of the cervical endometrium. The peritoneal surface is healthy. A section out through the middle of the left Fallopian tube shows a metastatic nodule of disease in this organ. Microscopically the growth was an adeno-carcinoma.

CASE 2.—Married woman, aged 51, who had never been pregnant. Seen in consultation with Dr. Charles E. Gray. Menopause occurred early, at 41; after this she was well and free from discharge for five years. In December, 1906, a slightly blood-stained discharge appeared for a day or two, and this recurred at irregular intervals of six to eight weeks during the succeeding 18 months. From the summer of 1908 onwards the blood-stained discharge became constant, and she wore a diaper every day. In July, 1911, about six months before the operation, a "flooding" occurred; this she described as being much more profuse than a monthly period and lasting 24 hours. The day before this occurred she had, for the first time, a good deal of abdominal pain. After this the bloody discharge returned, and a few months later a second, rather less severe, "flooding" occurred. Again the bloody discharge returned and continued with little change until the operation. Her general health and appearance had been good all the time. For two months before the operation she had had nearly continuous pain in the lower abdomen, but of no great severity.

I saw her on Jan. 31st, 1912. Examination showed that the cervix was healthy; the body of the uterus was irregularly enlarged to the size roughly of two and a half months pregnancy; its mobility was unimpaired. An attempt to pass the sound was abandoned, as bright hæmorrhage immediately followed its introduction into the cervix.

The uterus was removed by abdominal panhysterectomy, along with the tubes and ovaries, on Feb. 7th. The whole of the corporeal endometrium was covered with nodular, friable growth which ended abruptly below at the level of the internal os. The muscular wall showed advanced infiltration, the growth having nearly reached the peritoneal coat in one or two places. The pelvic and abdominal glands were not appreciably enlarged, nor was the pelvic cellular tissue infiltrated. No growth was to be found in the tubes. Microscopically the growth was an adeno-carcinoma. The patient made a good recovery.

The clinical history of Case 1 is not to be considered as at all exceptional; in my experience it is fairly typical of the slow advance and unimportant character of the symptoms of cancer of the uterine body. The symptoms bear no relation to the extent of the disease, for in this case—although the growth had advanced beyond the limits of the uterus, affecting the Fallopian tubes and the internal iliac glands—until two months before the operation the only symptom had been a slightly blood-stained discharge. Case 2 presents an unusually long history of slight hæmorrhage. This had been continuous for over three years, but five and a half years before the operation occasional irregular bleeding began at a time when menstruation had already ceased for five years. It seems hardly credible that the disease had been in existence for five and a half years, but the history is, I believe, reliable, for the patient was a highly intelligent woman and took great pains in furnishing me with correct dates.

This remarkable difference in the duration of the hæmorrhage, 15 months in Case 1 and at least three years in Case 2, must be due to a corresponding difference in activity, or in the degree of malignancy, of the two cancers. The two patients were in the same decade of age (51 and 56); both had passed the climacteric period for several years before the first symptoms of the disease appeared, four years in Case 1, five years in Case 2; structurally the cancer was of the same type in both cases. It is a common experience, however, that cancers arising in other organs display a corresponding variation in malignancy in different cases.

It is clear from these examples that the initial symptom of cancer of the body of the uterus may be merely a blood-stained discharge, thin, watery, odourless, the blood content being at first slight and intermittent. Later the amount of blood lost becomes larger and continuous, with occasional irregular hæmorrhages of a definite, but seldom of a profuse, character. Still later pain is superadded to these symptoms; the pain is seldom severe, and shows this common characteristic of the pain of malignant disease, that at night it is as bad as, or worse than, in the daytime.

I feel satisfied from my experience of the disease that pain is an exceptionally late symptom in cancer of the body of the uterus, for advanced stages of the disease may be reached without any complaint of pain being made by the patient, as Case 1 shows. In cancer of the cervix pain is, relatively speaking, an earlier symptom, and is invariably met with in the advanced stages. This is probably explained by the fact that in the latter a well-marked inflammatory process accompanies the advancing growth and spreads into the outlying tissues, forming a characteristic feature in the histological appearances. It is probably the direct result of infection of the growth by vaginal organisms; this, owing to the exposed position of the cervical growth, is very liable to occur, while the protected position of the corporeal growth gives it a greater security against vaginal infection (*vide infra*). Microscopically the inflammatory zone is not seen in cancer of the body to anything like the same extent as in cervical cancer.

This period of pain undoubtedly corresponds to an advanced stage of the disease in which glandular deposits and involvement of the Fallopian tubes, or the peritoneal coat of the uterus are very likely to be found.

In Cases 1 and 2, although for a prolonged period the amount of bleeding was very slight, yet eventually considerable hæmorrhage occurred. Although this is the usual course of events, a remarkable case recently came under my notice in which the final inoperable stage of the disease was reached with no loss of blood beyond that comprised in a slightly blood-stained discharge. At no time was there any considerable hæmorrhage.

CASE 3.—Married woman, aged 51, who had never been pregnant. In April, 1909, she underwent an operation for an abscess of the vermiform appendix. The menopause occurred at the age of 42. In September, 1910—i.e., seven years later—a thin, yellowish discharge began, which at times contained a little blood. This discharge continued without intermission, and later on became constantly blood-stained, but there was never any loss of blood comparable to that which occurs at a monthly period, nor were clots ever observed. In February, 1911—i.e., five months after the onset of the discharge—she began to complain also of slight abdominal pain. The patient being of a highly neurotic habit, little attention was paid to this complaint of pain. Her own statement was that from this time onwards a certain amount of pain became constant, but it was never severe.

I saw her in consultation with Mr. J. Lynes on April 19th, 1911. The uterus was then retroverted, considerably enlarged, irregular in shape, hard and nodular in consistence; on the right side was a separate hard lump, which was taken for a subserous fibroid. The cervix was healthy and the mobility of the uterus was somewhat impaired, but this I attributed to its retroverted position. The examination caused no appreciable hæmorrhage.

After discussing the possibility of the condition being malignant we decided to put the patient to bed for ten days and employ hot vaginal douches, giving ½-grain styptol internally three times a day. In the event of no improvement occurring I was to see her again in ten days. Unfortunately, the patient did improve while in bed, and in consequence she went away to the country; soon, however, the old symptoms reappeared, but it was not till June 20th (nearly two months later) that I saw her again. Although locally the conditions were not appreciably altered there was a considerable amount of thin, blood-stained, inoffensive discharge, and I had no hesitation in advising the prompt removal of the uterus. There had been no appreciable loss of flesh, but the general condition of the patient was not so good as it had been two months previously. The discharge had never been noticed to be offensive.

The operation was performed on June 24th and revealed a very advanced stage of malignant disease of the uterus. The growth had passed through the anterior uterine wall and had involved a considerable area of the parietal peritoneum to the right of the mid-line, to which it was firmly matted. A secondary growth, as large as a cricket ball, was present in the right ovary; this was the lump which had been wrongly regarded as a subserous fibroid on clinical examination. There were numerous small, isolated nodules of malignant growth on various parts of the parietal and visceral peritoneum. The uterus, with the tube and ovary on each side, was removed, together with as much as possible of the peritoneal metastases, but a complete operation was impracticable. The patient recovered from the operation and lived for nine months.

The right half of the uterus and the ovarian metastasis are shown in Fig. 2. The growth has entirely filled up the uterine cavity and has infiltrated the entire musculature, except for a portion of the posterior wall where a thin layer persists, and the peritoneal covering has also been preserved. On the anterior wall the growth has burst through and destroyed the peritoneal coat, the rough area seen in the photograph representing the part which had become attached to the parietes.

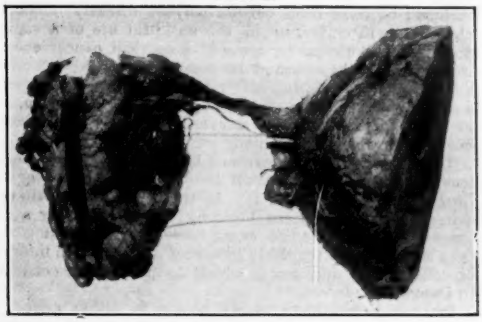
I regard this case as the most striking example I have ever seen of the unobtrusive and insidious character of this disease. The first symptom of hæmorrhage occurred only nine months before the operation, a much shorter time than in either Case 1 or Case 2, yet the disease was far more advanced. It must be supposed that the disease had been in existence for a considerable time before giving rise to any symptoms whatever. I regret that I did not advise immediate operation on first seeing her, but in view of the stage which the disease was found to have reached two months later, it is doubtful if the case was really ever seen at a time when it could have been successfully dealt with.

A further important point which this case illustrates is the fact that in advanced cases the discharge may remain inoffensive in cancer of the body of the uterus; in this respect, cancer of the cervix differs widely, for offensive discharges are the rule in this condition when the disease is at all advanced. The explanation is no doubt to be found in the protected position of the growth when situated in the uterine cavity. Cancer of the cervix is in contact with the

FIG. 1.

Adeno-carcinoma of the uterine body. The growth has deeply encroached upon the muscular layer at the fundus. X is a small fibroid. (Case 1.)

FIG. 2.



Adeno-carcinoma of the uterine body. The growth has completely destroyed a large part of the anterior uterine wall, and there is a large secondary growth of the right ovary and outer half of the right tube. The uterus was nearly as large as in Fig. 1, but in photographing it there has been considerable reduction in size. (Case 3.)

FIG. 3

Sarcoma of the uterus; the exposed portion below was sloughing. Well-marked invasion of the muscular layer is seen at the fundus. (Case 7.)

FIG. 4.

Senile endometritis with pyometra. (Case 8.)

FIG. 5.

Chronic metritis or fibrosis of the uterus. (Case 9.)

vaginal walls and in direct communication with the body surface; bacteria from outside may be directly implanted upon it as in coitus, or in the unskilful use of a vaginal douche. The ulcerating areas of a cervical cancer accordingly are readily attacked by secondary vaginal infection; but cancer in the uterine cavity, although ulcerating, stands a much better chance of escaping secondary infection, and to this circumstance the comparative rarity of offensive discharges must be attributed.

The symptom of hæmorrhage is so important that before leaving the subject I should like to point out one or two further characteristics of it. In the instances hitherto considered slight continuous bleeding was present for a prolonged period. In some cases, however, the bleeding may take the form of irregularly recurring attacks, with intervals of considerable duration in which no hæmorrhage occurs, as in Case 4 (*vide infra*).

Profuse hæmorrhage rarely occurs in either cancer or sarcoma of the uterine body before the terminal stages are reached, and in many cases not even then. So much have I been impressed with this point that I am accustomed to regard cases in which there has been definitely severe bleeding as less likely to prove malignant than those in which the hæmorrhage has been inconsiderable. The most alarming hæmorrhages I have ever seen, apart from pregnancy, have been in cases of partly extruded submucous fibroids of benign structure. More rarely, however, we meet with almost equally severe hæmorrhage from intra-uterine adenomatous growths, also of perfectly innocent characteristics. Case 5 is a fairly typical example of this class.

CASE 4.—Married woman, aged 47, who had had two children. The menopause occurred at 41, and for about five years there was no further hæmorrhage or discharge. Then a slight bleeding set in, which in a few days led up to a rather severe loss with clots; this occurred 15 months before the operation. Subsequently there were inconsiderable and irregular losses of blood every two or three weeks; on one occasion she was free from it for five weeks. In the intervals of bleeding there was a whitish, slightly offensive discharge.

On examination the uterus was found symmetrically enlarged to the size of eight weeks pregnancy, and its mobility was unimpaired.

The operation took place on June 17th, 1909, and subsequent examination of the uterus revealed a generally diffused carcinoma of the endometrium; although spread over the whole uterine body there was not much infiltration of the musculature except at the fundus. Panhysterectomy was performed, and the patient made a good recovery.

CASE 5.—A married woman, aged 51, who had had six children. During the first half of the year 1910 the menstrual periods had been normal in amount and a little delayed, but beyond this there had been no indication of the menopause. In June, 1910, the period was 14 days overdue, when a very severe hæmorrhage occurred; the patient at the time was abroad, and her medical attendant there found it necessary to plug the vagina to arrest the bleeding. She continued to lose profusely for three weeks, and the bleeding did not entirely cease for six weeks. After this there was no further period until Christmas, 1910, when a profuse loss, lasting seven days, occurred and was accompanied by great pain. There was another similar loss in January, 1911, and nothing further until the end of March, when she had another bad hæmorrhage lasting three weeks. She then decided to come home with a view to an operation being performed.

I saw her in consultation with Dr. T. W. Parkinson on June 9th, 1911. She was very anæmic, but in other respects her general health was good, and there had been no bleeding for six weeks. I found the uterus was somewhat bulky, but not larger than one often finds it in a healthy woman who has had several children. Its shape was normal and there were no irregularities suggesting the presence of fibroid or other new growths. I did not think the condition was malignant, but the patient's intention was to leave England as soon as possible, and she desired an assurance that something should be done which would free her from the risk of further floodings. I therefore agreed to perform a radical operation, there being obviously no objection to this on the score of her age.

The uterus was removed by the abdominal route on June 22nd, and on opening it a small, soft, sessile growth was found at the fundus, which on microscopic examination proved to be a simple benign adenoma of the endometrium. The patient made a good recovery.

Consideration of Case 5 shows that there are certain points of difference from the usual clinical history of cancer of the uterine body. The age (51) corresponds with that of cancer, but the patient was a woman who had borne more than the average number of children, the menopause had not been passed, and the hæmorrhage, instead of being slight and steady, was very profuse and irregular, with long intervals. It was, therefore, reasonable to differentiate it, on the clinical data alone, from cancer.

III.—*Changes in the Uterus Recognisable by Clinical Examination.*

We pass now from the symptoms to consider more carefully the physical signs which may be met with in early stages of malignant disease, and here we at once encounter the same difficulty as with the symptoms. The changes produced by cancer in the body of the uterus are by no means striking in their character, and may be overlooked if the physical examination is difficult, or misinterpreted if the examiner does not understand their importance. A complete and satisfactory bimanual examination of the uterus is essential for the recognition of these changes, and if the patient is stout, or the uterus retroverted, an examination made under anæsthesia may be absolutely necessary before any conclusion can be arrived at.

As a rule the only change which can be discovered is a moderate degree of enlargement of the body of the uterus; usually the enlarged organ is softer than the normal in consistence, and presents no irregularity in shape. If irregularity in outline, or of surface, is found it may be due to the presence of fibroid nodules (Case 1) or to the protrusion of malignant outgrowths upon the peritoneal surface of the organ as in Case 3.

The size of the uterus in malignant disease is seldom larger than a two and a half to three months pregnancy; large uterine tumours are usually innocent, malignant uterine tumours are relatively small. Enlargement of the body of the uterus, when detected in a woman who has passed the menopause, should always receive the most careful consideration. And upon this point we must not omit to observe that when the menopause has been passed for several years, the uterus in most cases, though not in all, undergoes a recognisable degree of shrinkage when healthy. If at this age the uterus is as large as, or definitely larger than, that of a healthy adult woman, it is almost certainly the seat of disease. If the enlargement is irregular or nodular, the consistence hard, and there is no hæmorrhage or other discharge, the enlargement is probably the result of the presence of old fibroid tumours which are inactive and perhaps atrophied, and the condition is therefore of no importance. If an enlargement of this character is accompanied by a hæmorrhagic discharge, cancer of the body is probably also present as well as the fibroid tumours, or in rare instances sarcoma may have arisen in the fibroids. If the enlargement is symmetrical and the consistence softer than the normal, and there is hæmorrhagic discharge, the condition is almost certainly cancer of the body of the uterus.

We are accustomed to regard fixation as an important sign of malignant disease of internal organs, but it must be carefully borne in mind that in this disease the uterus may preserve its natural degree of mobility practically unimpaired until an advanced stage has been reached. Owing to atrophy and shrinkage of the broad ligaments the mobility of the uterus becomes somewhat limited after the menopause, so that we must not expect to find the uterus of a woman of 60 so freely moveable as that of a woman of 40. In respect of mobility the conditions are different from those met with in cancer of the cervix. In the latter the disease follows the cervical lymphatics which pass through the base of the broad ligament, communicating freely with the abundant cellular tissue there present; this cellular tissue accordingly becomes the seat of thickening, clinically recognisable at a comparatively early stage of the disease. In cancer of the body the lymphatics traverse the upper part of the broad ligament—the meso-salpinx; here the cellular tissue is very scanty, especially in elderly women, and consequently little evidence of peri-uterine infiltration is met with. When the disease spreads beyond the limits of the uterus the structures first involved are the Fallopian tube, the ovary, and the deep iliac or hypogastric glands. These glands lie upon the postero-lateral wall of the pelvis, and when enlarged do not tend to immobilise the uterus at all. Free mobility is, therefore, quite compatible with a malignant growth of the body of the uterus of very considerable extent.

A careful examination of the cervix, both by touch and sight, should be made in all cases; as a rule it will be found healthy. When, however, unimportant morbid conditions are present, unless a careful systematic examination is made in all cases as a matter of routine, the mistake may be made of overlooking much more serious disease in the body of the uterus. For instance, small adenomatous cervical polypi often, although not always, give rise to slight irregular or continuous bleeding, not unlike that which occurs in cancer of the body. Whenever in middle life such a polypus is met with, it should be freely removed, the cervix dilated, and the uterine cavity explored with the finger or the curette. I have in this way more than once known a corporeal cancer detected, which but for the systematic

examination would certainly have been overlooked. And, further, the cervical growths should always be submitted to microscopic examination, as in elderly women cervical polypi are sometimes malignant.

In some cases the malignant growth may be found in the cervix itself; small areas of warty, friable growth, or a small freely bleeding ulcer are the commonest forms assumed in the earliest stages. But in this connexion we must recollect the great difficulty of detecting *endocervical cancer* in its earlier stages; that is, cancer beginning within the cervical canal and therefore inaccessible to direct examination. Even in an exploratory curetting cancer in this situation may be missed unless the walls of the cervical canal as well as those of the body cavity are carefully gone over with the curette. I have known on more than one occasion this form of cancer missed in curetting by an experienced operator.

I do not advise the routine use of the sound when the suspicion of malignant disease of the body is entertained. It is easy to perforate the wall of the malignant uterus with this instrument, and, what is worse, this may be done without the accident being discovered at the time. When this is the case the mishap may prove fatal from peritonitis. But even if the uterus is not perforated severe hæmorrhage may follow the use of the sound, and this is an awkward complication to deal with in the consulting-room. I rely upon a careful bimanual examination to determine the size of the uterus, and if this can be done satisfactorily the sound is quite unnecessary.

Dilatation of the cervix and exploration of the uterine cavity with either the finger or the curette is the only other available means of diagnosis. I do not make a routine use of this method, and, indeed, I find that I have only used it in one case out of every six that I have operated upon. In advanced cases the operation is by no means devoid of the risk of perforation, and curetting is further objectionable as transgressing the surgical rule that a malignant growth should, if possible, be removed without cutting into it or scraping it, and thus running the additional risk of introducing living cancer cells into opened blood-vessels. As a rule, it is unnecessary in advanced cases, for the history together with the enlargement of the uterus amply justify the radical removal of the organ in women who have passed the child-bearing age.

In earlier cases, on the other hand, where the symptoms have been of very brief duration, or where, although there is bleeding, definite enlargement is not made out, curetting for diagnosis is the proper course to pursue. When the operation is done under such circumstances the condition will often prove to be innocent. When curetting is done in this way for diagnosis the *whole of the scrapings* should be carefully collected, and placed immediately in about an ounce of normal saline solution to which one or two drops of 40 per cent. formalin may be added. The whole is then sent to the pathologist with as little delay as possible.

If cancer of considerable extent is present the curette will bring away large quantities of friable, soft, solid material; the instrument must, of course, be used with care and gentleness. Unless the whole area of the uterine wall is gone over carefully with the curette in an early case small areas of disease may be missed. And, further, if the uterine cavity is encroached upon and distorted by a submucous fibroid it may be mechanically impossible to direct the curette into the part of the cavity lying beyond the fibroid, and in this way small areas of cancer may escape detection. If the uterine walls are felt to be roughened or irregular and the curette detaches very little solid material the cavity should be explored with the index finger. There is no doubt that the finger is far superior to the curette as a diagnostic aid, but its use requires full dilation of the cervix; this is a matter of considerable difficulty in elderly women and is always accompanied by a good deal of laceration. My own practice, therefore, is to reserve digital exploration in these circumstances for doubtful cases.

IV.—*Conditions which Modify the Clinical Features.*

The next point to which I should like to call your attention is that the usual clinical features of the disease are sometimes considerably modified by the presence of other pathological conditions which may be of independent origin, or may be consequent upon the presence of the malignant growth. Under this heading a considerable list of conditions might be mentioned, but I shall limit myself to two important conditions which I can present to you by means of illustrative cases. The first is the presence of a large fibroid, the second the occurrence of infective processes in the growth itself or in the Fallopian tubes.

CASE 6.—Married woman, aged 61, who had had five children. Although 61 years of age, menstruation had not ceased entirely, a "period" occurring about twice a year for several years before the operation, which took place on Nov. 9th, 1909, in the Chelsea Hospital for Women. A month before the operation a severe bleeding occurred, the blood being bright and containing clots. This continued for several days, confining her to bed. After this the bleeding never entirely ceased, although it became greatly diminished in quantity. There was no pain at first, but a fortnight after the onset of the hæmorrhage a severe attack of abdominal pain occurred lasting for about an hour. After this several slighter attacks recurred at intervals of a few days, each attack appearing to be relieved by the passage of clots.

The patient had a large fibroid tumour, and after removal the uterus weighed 9½ lb. On opening the uterus after hardening it was found that the tumour, situated in the posterior wall, was to a great extent submucous, the uterine cavity being much enlarged. In three separate and distinct positions a small nodule of papillomatous, friable growth was found upon the endometrium. On microscopic examination this proved to be an adeno-carcinoma. There was very little infiltration of the musculature. The patient made a satisfactory recovery.

The points in which this case differs from the common clinical features of the disease are, first, the absence of the menopause; secondly, the severity of the initial bleeding; and, thirdly, the early appearance of attacks of severe abdominal pain. The very late persistence of menstruation is a not uncommon result of a fibroid when it is submucous in position; small interstitial or subserous fibroids, on the other hand, do not greatly delay the menopause. The first indication of the presence of malignant disease was the severe bleeding which occurred a month before the operation. The unusual severity of the initial bleeding was probably due to the relatively greater degree of vascularity of the uterus, consequent upon the presence of the large fibroid tumour. The attacks of pain subsequently noted were probably of the nature of uterine colic; blood accumulating in the dilated uterine cavity would after a time set up powerful and painful contractions by which the accumulated blood would ultimately be expelled through the cervix. The carcinoma was clearly an independent growth in the endometrium, and had no connexion with the fibroid. The divided uterine wall was thick and vascular, and in marked contrast to the atrophied and relatively devascularised uterus usually found in women over 60 years of age.

CASE 7.—Married woman, aged 57, who had had one child. The menopause occurred at 54, and she remained well for two years afterwards; then a yellowish discharge occurred which at times was noticed to be stained with blood. I first saw her on June 9th, 1910, when this discharge had been in existence for three to four months. She did not complain of pain and her general health was good.

On examining her I found a well-marked senile vaginitis, and I regarded the vaginal walls as the main source of the discharge. The uterus was retroverted and a little enlarged. I arranged with her medical attendant, Dr. G. Dupont, that the vaginitis should be carefully treated and the patient at once brought back if the symptoms became more severe. However, she improved so much under treatment that she went abroad and did not return home until April, 1911. The yellow discharge continued but not persistently; sometimes she was free from it for several days, and there was never more than a streak of blood in it.

At the beginning of May she was suddenly seized with acute abdominal pain and fever (102·2° F.). I then saw her again and found there was an abundant offensive discharge from the uterus. Two days later I explored the uterine cavity, after dilating the cervix, and found that it contained a sloughing growth of considerable size attached to the fundus. In view of the possibility of its being malignant I sewed up the cervix, and then immediately performed panhysterectomy by the abdominal route. On microscopic examination the growth proved to be a mixed-celled sarcoma, the muscular tissue at the fundus being considerably invaded (Fig. 3). The patient made an uninterrupted recovery.

This case incidentally serves to show that when uterine sarcoma occurs in elderly women the early symptoms are indistinguishable from those of carcinoma, as was pointed out at the beginning. A discharge, sometimes stained with blood, had been noticed for 12 months, but no considerable bleeding had ever occurred. Yet during this time a large sarcoma had been growing, which at the time of the operation had considerably infiltrated the uterine musculature. The advance of the disease was therefore no more rapid than in cancer, nor were the symptoms any more obtrusive. The sloughing of the growth I attribute to infection from the vagina, which was probably the source of a good deal of the discharge from which she had previously suffered. In one sense this occurrence was a fortunate one, for if it had not happened the growth might not have been discovered until it had made still further advances, and had accordingly become less amenable to operative treatment.

Sloughing of an intra-uterine tumour does not in all cases

give rise to fever to anything like the degree seen in this case. While the cervical canal remains freely patent, providing for adequate drainage into the vagina, not much absorption from the uterus will take place. In this case the cervix probably became blocked by débris from the sloughing tumour, and absorption then began, resulting in fever. When the patency of the canal became restored the temperature rapidly fell.

Another infective complication of which I have seen several examples is pyosalpinx resulting from infection of the tubes from the ulcerating growth in the uterus. This complication is relatively much more common in cervical than in corporeal cancer for the reason already mentioned, that in the cervix the exposed position of the growth renders it specially liable to become secondarily infected. Tubal infection in these cases is seldom acute, and consequently fever is not commonly met with; sometimes, however, an acute peritonitis results from leakage from an infected tube.

V.—*The Differential Diagnosis.*

There are only two conditions which we need consider in this connexion—viz., senile endometritis and the condition known as fibrosis or chronic metritis. In a systematic description of the subject other disorders than these would have to be taken into account, but for practical purposes these two are the most important ones.

Senile endometritis occurs at much the same time of life as malignant disease of the uterine body, for it is essentially a post-climacteric affection. The prominent symptom is, however, a purulent and usually offensive discharge; bleeding is often entirely absent, and when present is never considerable. As a rule, the vaginal canal participates in the inflammatory process, and is the source of a good deal of the discharge. There is usually no complaint of internal pain, but a certain amount of burning and discomfort externally is often caused by the discharge. The uterus itself, as a rule, is not enlarged and often shows definite post-climacteric atrophy; sometimes, however, it does become enlarged from distension of its cavity with pus, producing pyometra. This enlargement is regular in shape and softish in consistence, while the mobility of the uterus remains good. The condition accordingly presents certain resemblances to cancer.

CASE 8.—A married woman, aged 63, who had had four children. The menopause occurred at the age of 50. I saw her at the Chelsea Hospital for Women on April 28th, 1903, and she had then noticed a yellow and unpleasant discharge for upwards of 18 months. At times it was stained with blood, but there had been nothing greater than a "show" of blood at any time. She said that latterly the discharge had been very offensive.

On examination the cervix showed well-marked post-climacteric atrophy, and the body of the uterus was somewhat enlarged, relatively to her age, softish in consistence, and on making pressure upon it with the finger passed into the rectum, a considerable amount of brownish, foul-smelling pus could be squeezed out of the uterus. Seen through the speculum the lips of the os and the walls of the upper half of the vagina were deeply reddened, and oozed slightly with blood when firmly wiped with cotton-wool.

At this point the case was regarded as being probably one of pyometra due to malignant disease of the uterine body. As a matter of fact, pyometra, although not uncommon in cancer of the cervix, is seldom seen with cancer of the body; in my own experience of the disease I have never met with it at all. This point, however, I was not familiar with when this case occurred, now nine years ago, and I leant then strongly to the view that the case was one of malignant disease. Before deciding to remove the uterus the cervix was dilated under anæsthesia and the cavity explored with the finger. About two ounces of pus escaped during the dilatation, but on exploring the cavity no trace of new growth could be found in any part. The organ was sharply retroflexed, and the distension with pus appeared to be the result of imperfect drainage, consequent upon the malposition, aided by inability of the atrophied uterus to expel its contents by muscular contractions. The uterus was then douched thoroughly, swabbed with iodised phenol, and then loosely packed with iodoform gauze.

For a time the patient was better, but in a few months the condition was as bad as ever, and the uterus was then removed by vaginal hysterectomy. When examined after removal there was no new growth found (Fig. 4), but the walls were sloughy, rough and irregular in appearance, and the musculature was much thinned in comparison with that of a woman in the fertile period of life; it measured a quarter of an inch in thickness instead of the normal one-half to three-quarters of an inch. On microscopic examination it was found that the mucous membrane had been entirely removed by sloughing.

In this case the preliminary exploration of the uterus was certainly justified, but there would have been nothing to regret if the radical operation had been immediately performed, inasmuch as the patient was not relieved until this had been done. It must, however, be admitted that senile endometritis rarely produces results so serious as this, and it can often be cured by local treatment. I do not think there is any clinical evidence that senile endometritis is a precursor of cancer, although from what is known of the causation of cancer generally this relation is not inherently improbable. In order to avoid a serious error of diagnosis suspected cases should always be submitted to careful exploration of the uterine cavity, and here the finger is of the greatest service.

Uterine fibrosis or chronic metritis differs from malignant disease both in its general incidence and in the kind of hæmorrhage to which it gives rise. As a rule, the subjects of this disease are considerably below the age of uterine cancer, and as menstruation has not ceased the prominent symptom is menorrhagia; in severe cases irregular losses also sometimes occur, as in Case 9, and altogether the hæmorrhage is a good deal more than is usually the case with cancer. A leucorrhœal discharge is commonly present in the menstrual intervals, but there is no admixture of blood, nor does the discharge show any tendency to become offensive. The history is prolonged and the advance of the symptoms very slow. The uterus is generally enlarged, though not so much as in cancer; its shape is normal and its consistence unusually hard. The enlargement is mainly due to increase of fibro-muscular tissue. Its mobility is unimpaired.

There is sufficient resemblance between this condition and malignant disease to call for care in diagnosis. Exploration of the uterus and curetting suffice to exclude a malignant growth, but in the great majority of the cases of fibrosis curetting does very little good, and the persistence of the symptoms after this operation may arouse suspicion of malignancy. Hysterectomy is frequently required, and in the case of fibrosis the ovaries, if healthy, should be conserved in patients who have not passed the climacteric.

CASE 9.—A married woman, aged 48, who had had one child and three miscarriages at intervals after the confinement. She was admitted to the Chelsea Hospital for Women on Feb. 21st, 1911. For the previous two years she had complained of increasing losses at her monthly periods, and occasional irregular losses of blood in the menstrual intervals. These intermenstrual losses were inconsiderable up to August, 1910, but she then had a bad "flooding" lasting altogether three weeks. Since that time—i.e., six months—she had not been free from bleeding for more than a week at a time. When not losing there was a little yellowish discharge. Occasionally there was slight colicky pain with the hæmorrhage.

On examination the uterus was found to be considerably enlarged and unusually hard in consistence; there was no irregularity in outline to be made out, and the cervix was healthy except for an erosion.

The uterus was removed by abdominal pan hysterectomy without a preliminary exploration as it was thought to be malignant. On examining the organ after removal (Fig. 5) no new growth was found, but the wall of the uterus was greatly thickened, especially in its muscular coat, in the manner characteristic of uterine "fibrosis."

In conclusion, one favourable circumstance in connexion with malignant disease of the uterine body may be mentioned—viz., that the prognosis as regards recurrence after radical operation is much more favourable than in cancer of the cervix. One of my cases in which the disease was found to have extended to the Fallopian tube and broad ligament is alive and well ten years after the operation; another I know of, in whom the disease was almost equally extensive at the time of the operation, was free from recurrence after seven years. Glandular enlargements do not contraindicate a radical operation, even when the affected glands cannot be extirpated. In a considerable proportion of cases the enlarged glands are found to be non-malignant, the increase in size being due to inflammatory infection from the ulcerating growth. It is, of course, desirable that enlarged glands should, if possible, be removed, as the question of malignancy can only be settled by microscopic examination. We may therefore say that even if diagnosis is difficult, and cases are seldom seen in the early stages, for the reasons already set forth, the disease remains operable for a relatively long time and surgical intervention may be undertaken with good hope of success, even when the history is prolonged and the disease of wide extent.

Queen Anne-street, W.

ROYAL VISIT TO ALDERSHOT HOSPITALS.—Saturday, May 18th, was selected by their Majesties during their stay at Aldershot for a visit to the Louis Margaret and Cambridge Hospitals. At the Cambridge Hospital their Majesties were received by Surgeon-General G. W. Robinson, P.M.O., Lieutenant-Colonel S. Hickson, and the staff of the hospital, and after making an inspection of the entire organisation of the institution visited every ward and the domestic departments. They spoke with many of the patients. The King was particularly interested in the appliances for injecting stovaine, and on leaving both his Majesty and the Queen expressed their satisfaction at what they had seen.

ON THE SURGICAL TREATMENT OF ANEURYSM.[1]

BY H. GILBERT BARLING, M.B., B.S. LOND., F.R.C.S. ENG.,
SURGEON TO THE BIRMINGHAM GENERAL HOSPITAL.

I AM inclined to apologise for my temerity in introducing this discussion on aneurysm with the limited experience I have of the disease, but I feel to some extent absolved by the knowledge that, from the comparative rarity of the condition, many other surgeons would labour under similar disadvantage. It has seemed to me appropriate that the Surgical Section of the Royal Society of Medicine should take a formal opportunity of discussing the treatment of external aneurysms due to disease because of the recent methods devised by Matas under the term of "endoaneurysmorrhaphy."

My own operative experience of external aneurysm, excluding traumatic cases of which I do not propose to speak, is based upon five popliteal aneurysms, two aneurysms of the third part of the right subclavian artery with dilatation of the vessels on the proximal side, and one case of aneurysm of the internal carotid. Four of the popliteal aneurysms were treated by ligature of the superficial femoral artery at the apex of Scarpa's triangle. The only points concerning them worth mentioning are that two of them occurred in the same patient, a man aged 22, only a short interval supervening between the cure of the one and the appearance of the other, and that one patient, a male, aged 50, suffered from gangrene of the toes for which a mid-tarsal amputation was performed. The fifth popliteal case was treated by obliteration on Matas's method. Briefly the details are as follows:—

A male, aged 30, a long-distance runner, was admitted to the General Hospital, Birmingham, on June 28th, 1910, with an aneurysm of the right popliteal space rather low down. The circulation was controlled by a rubber tourniquet and the sac laid open. The aneurysm was of the fusiform type, the popliteal artery opened into its upper end, and the anterior and posterior tibial arteries led out of the lower part; two other small arterial orifices were found opening into the sac. All the arterial openings were sutured with fine catgut, the sac was obliterated with the same material, and the wound was closed without drainage. Recovery was without incident of any kind, the foot remained warm throughout, healing was by first intention.

The patients with subclavian aneurysm were both males between 40 and 50 years of age; both complained of pain in the right shoulder, neck, and arm, and had been treated for rheumatism and neuritis. Treatment by rest, iodide of potassium, and modified diet made no impression on the disease, and as the pain was disabling operative treatment was resorted to. The two cases were curiously parallel; in both the intention was to ligature the innominate artery, which was exposed by excision of the inner portion of the clavicle, but in both this vessel, the lower end of the carotid, and the first and second portions of the subclavian were so dilated and atheromatous that the application of a ligature in either of these situations seemed likely to be followed by misfortune. As the limits of the aneurysms prevented ligature above the clavicle the first part of the axillary was tied and simultaneously the common carotid at the middle above the dilated portion. The aneurysms consolidated and there were no untoward symptoms of any kind. The first of the patients died five years after operation with an aneurysm of the arch of the aorta, which ruptured. The other patient lived five and a half years and died from cerebral mischief due to disturbance of the circulation which in turn was the result of aortic disease which had commenced at the time of the operation but developed rapidly a few months before death. Both of these patients were relieved of their symptoms, were restored to their duties, and enjoyed a fair measure of activity.

The aneurysm of the internal carotid occurred in a lady approaching middle age who was quite clear that a small swelling had existed in her neck in the position of the aneurysm for many years, and that it had rapidly enlarged in the few months preceding my examination, when it was the size of a bantam's egg and pulsated very actively both in the pharynx and in the neck. It was quite impossible to determine whether the aneurysm had developed from the upper end of the common carotid, from one of its main divisions, or from a branch of the external carotid. My incision first exposed the main trunk and then its divisions: when following up the latter a sacculated aneurysm was found springing from the upper end of the internal carotid just before it entered the base of the skull; the sac hung downwards like a pear on its stalk between the external and internal carotids, somewhat compressing the latter, and showing the possibility of an aneurysm bringing about its own cure; the lowest part of the sac just overlapped the bifurcation of the common trunk. The condition seemed favourable for Matas's restorative method, but I was deterred from this by the inaccessibility of the mouth of the sac close to the base of the skull and the difficulty of controlling the regurgitant stream of blood down the internal carotid if the suturing of the orifice proved faulty. Excision of the aneurysm was therefore resorted to. A few days after the operation the patient complained of pain and weakness in the left shoulder which was followed by some wasting of the muscles, but these have now recovered. We have, however, in this incident another reminder of the possible risks of ligaturing one of the main arteries supplying the brain and the desirability of adopting the restorative method when this is applicable.

Aneurysm of the internal carotid appears to affect women more commonly than men. It is apt to extend towards the pharynx and to burst into that cavity, whilst more than once it has been opened there by the surgeon's knife when obscured probably by an inflammatory condition around the sac.

A few words may not be out of place as to the material for ligature in continuity and the method of its application. Personally I prefer an absorbable ligature, and I think none is better than moderately chromicised catgut, which I have used for arteries of all calibre up to the common iliac without drawback of any kind. I do not think either kangaroo or reindeer tendon quite so manageable as catgut and the knot produced is undesirably bulky, a factor which has been accused by more than one surgeon as a source of misfortune by ulcerating into the vessel. Floss silk has much to recommend it; it is easily sterilised, it is strong and very manageable, but it has one serious drawback: although it may be absolutely sterile when applied to the artery, if any wound infection occurs the interstices of the silk become invaded by organisms, and it will probably ulcerate its way through the walls of the vessel. This is shown in two successful cases of ligature of the innominate, one by C. J. Symonds and one by W. B. Burns, of Memphis. The silk ligature used was recognised in the discharge from the wound, and it is easy to imagine the peril to the patients' lives which this implied. If an absorbable ligature should become infected, it would probably not cut its way through the carotid wall, as would silk.

As to the method of ligature, I prefer the stay knot of Ballance and Edmunds to any other. My intention has always been to close the artery with as little damage as possible; division of the internal coat has appeared to me to be a gratuitous injury. But if a great artery is to be closed without this damage a double ligature is necessary, the first to break the force of the blood current, whilst the second is applied under more favourable physical conditions side by side with it. The stay knot, with which everyone is now familiar, provides exactly what is required and disturbs the vascular supply to the arterial walls as little as a single ligature.

It is impossible to leave this part of the subject without referring to the influence of Lister's work on the treatment of aneurysm. In no department of surgery is asepsis of more vital importance; it transcends in value even the gift he bestowed on us of the absorbable ligature. Only when the quite recent history of operative work on aneurysms comes to be written and compared with that of preceding years shall we realise what a profound and vitalising influence our great master exercised on a subject which was at the same time a fascination and a terror to the surgeons who preceded us. To Lister I owe it that my own small experience has been practically without anxiety; there has been no wound infection, and as a consequence no secondary hæmorrhage.

The procedures devised by Matas under the title of endoaneurysmorrhaphy offer a bold challenge to the methods we have hitherto relied on. The essence of his work is that the diseased vessel is attacked from within instead of from without and that the sac is obliterated, no aneurysmal cavity

[1] A paper read before the Surgical Section of the Royal Society of Medicine on May 14th, 1912.

being left in which recurrent pulsation or inflammatory troubles may arise. He relies on the activity of the endothelium lining the sac of the aneurysm, and especially upon that lining the orifices of vessels opening into the sac, when approximated by suture to unite and close the vascular orifices and to obliterate the sac. The advantages claimed for endoaneurysmorrhaphy as against proximal ligature are that the former avoids three of the difficulties of the latter: (1) damage to the vessel wall through the vasa vasorum which exposes the patient to the possibility of secondary hæmorrhage at the point of ligature; (2) failure to cure the aneurysm from too free an anastomotic current through the sac; and (3) pressure on the collateral circulation by the distended sac predisposing to gangrene.

The advantages of endoaneurysmorrhaphy over excision of aneurysm are claimed to be that the main vein is less likely to be injured, that the collateral circulation is less disturbed since the only vessels interfered with are those opening into the groove indicating the position of the original arterial channel, the wall of the sac is sutured over this groove so as to remodel the arterial wall that it may again carry the blood current. The orifices of smaller arteries in the sac are then sutured and the sac is finally obliterated.

3. *The restorative.*—This is applicable to sacculated aneurysms in which the sac communicates with the artery by an orifice well defined and of moderate extent. The simple orifice is sutured so as to repair the arterial wall and only rarely do secondary orifices require attention. The sac is then obliterated by suture as in the other procedures.

Whichever plan is adopted an essential point is the complete control of the arterial circulation; it is necessary to dominate not only the proximal but also the distal vessel or vessels. This is easy to attain in the limbs when Esmarch's ligature can be applied to the part above the aneurysm, but is far more difficult in the abdomen, in the neck, and where the limbs join the trunk. In such positions the control of

Table giving Details of 16 Cases of Aneurysm Treated by Endoaneurysmorrhaphy in the British Isles.

No.	Position of Aneurysm.	Nature of operation.	Typical or atypical.	Result.	Remarks.	Reference.
1	Subclavian, second and third parts.	Ligature of first part of subclavian and infolding of sac without opening.	Atypical.	Recovery.	—	Moynihan, Leeds, unpublished.
2	Brachial.	Obliteration.	Typical.	,,	—	Walter Thompson, Leeds, unpublished.
3	External iliac.	,,	,,	Death.	Septic peritonitis. Gangrene of leg. Furious bleeding from deep epigastric and circumflex iliac arteries when sac was opened.	Sinclair White, Sheffield, unpublished.
4	Popliteal.	,,	,,	Recovery.	—	Graham Simpson, Sheffield, unpublished.
5	,,	,,	,,	,,	Popliteal vein damaged and ligatured. Gangrene of leg. Amputation.	Thelwall Thomas, Liverpool, unpublished.
6	,,	,,	,,	,,	—	Barling, Birmingham, unpublished.
7	,,	,,	Atypical.	,,	Sac too fragile to carry sutures. Operation concluded by tying entering artery.	Anonymous, unpublished.
8	,,	,,	Typical.	,,	—	Rigby, Proceedings of the Royal Society of Medicine, vol. iii., Part I., 1909-10, Clinical Section, p. 131.
9	,,	,,	,,	,,	(Same patient as No. 8.)	,,
10	,,	,,	,,	,,	—	Rigby, Clinical Journal, August 4th, 1909.
11	,,	,,	,,	,,	—	Barker, THE LANCET, July 15th, 1911, p. 871.
12	,,	,,	,,	,,	—	Maynard Smith, Proceedings of the Royal Society of Medicine, vol. iii., Part I., 1909-10, Clinical Section, p. 130.
13	,,	Reconstruction.	,,	,,	Reconstructed artery seen to pulsate. Gangrene of foot. Amputation of thigh. The sac had ruptured.	Sheen, Clinical Journal, Nov. 9th, 1910.
14	,,	,,	,,	,,	The sac had ruptured. Reconstructed artery seen to pulsate. Gangrene of toes.	,,
15	Femoral.	Obliteration.	,,	,,	The sac had ruptured; it could not be entirely obliterated. Drained.	
16	Subclavian, third part.	,,	,,	,,	Aneurysm exposed by division of clavicle. Traction ligature distal to aneurysm failed to control reflux current of blood, so vessel was clamped on distal as on proximal side of sac.	Pringle, Edinburgh Medical Journal, September, 1911.

sac itself, and as a consequence gangrene of the distal parts is less likely to occur. A further advantage claimed for Matas's method over proximal ligature or excision is the possibility in selected cases of restoring the vessel wall by suture in such a manner as to leave the main blood channel of the distal parts still patent whilst the sac of the aneurysm is obliterated. Although it seems almost unnecessary, yet for the sake of clearness it is advisable briefly to describe and illustrate what Matas purposes. He recommends three different procedures adapted to aneurysm of varying kinds.

1. *The obliterative.*—In this the orifices of the main vessels entering and leaving the sac and of any smaller arteries which may be found in it are closed by suture and the sac itself is obliterated also by sutures. This is the method usually adopted in fusiform aneurysms.

2. *The reconstructive.*—In certain cases of fusiform aneurysm where the proximal and distal orifices of the main vessel are not very far apart and where there is a distinct the circulation seems to be best attained by clamps applied to the main artery above and below the sac and as close to it as possible. Even then a large collateral opening into the sac, as, for example, the deep epigastric into an iliofemoral aneurysm, may give rise to troublesome and even severe hæmorrhage, and clamping of this vessel would also be required. Aneurysm in the abdominal cavity is treated exactly as in the limb, the sac being obliterated without drainage, and the peritoneum closed over it as the skin would be in the other parts. As to the suture material, catgut, silk, and thread have all been used with success. When the sutures are inserted they should not be used mincingly, but should take a good hold of the walls of the sac without, however, perforating its whole thickness. To obtain obliteration tension mattress sutures are generally necessary; they should take a good hold of the walls of the more superficial parts of the sac, then pass through the overlying skin, when they are tied over rolls of gauze.

Endoaneurysmorrhaphy has attracted more attention on the American continent than in Europe, and to the results attained there we must first direct our attention. Dr. Matas published his last collection of cases in 1910,[2] but I learn from a personal communication that he will shortly place the results up to the present time before the American Medical Association. The record just referred to comprises 149 operations for aneurysm, of which 105 were obliterative, 20 restorative, and 24 reconstructive. Of these, 129 occurred in the external iliac or in its continuation down to the popliteal. In only 5 cases did gangrene follow operation; these were all obliterations, and in 3 of them the principal factor which determined gangrene was injury and ligature of the popliteal vein.

The mortality is not given in the paper alluded to above, and it is, therefore, necessary to refer to an earlier collection of cases by Matas,[3] which comprises 85 operations—59 obliterative, 13 restorative, and 13 reconstructive. The figures are not quite clear, as in one place 8, and in another 7, deaths are referred to, but I am only able to indentify 7. Six of these occurred in the obliterative group, 2 were aneurysms of the abdominal aorta, 1 of the external iliac, 1 was iliofemoral, 1 femoral, and 1 popliteal. The remaining death was after reconstruction in the iliofemoral region; the restorative operations were free from mortality. Secondary hæmorrhage happened in 2 cases only; both were obliterations. Relapse followed operation 4 times, always after reconstruction; 1 of these patients was cured by an obliteration, 2 were submitted to amputation and recovered, the fourth died after rupture of the sac.

In the later paper it is definitely stated that gangrene had not occurred in any of the restorative or reconstructive operations then collected, nor had relapse in any other instances than those referred to above.

The figures which I am able to bring forward regarding endoaneurysmorrhaphy in the British Isles are very meagre, though I have made careful search and inquiry. The total number of cases is 16, 9 collected from current literature and 7 yet unpublished from notes kindly provided by my surgical friends. Of these 16 aneurysms, 1 was of the external iliac, 1 femoral, 11 popliteal, 2 subclavian, and 1 brachial. Fourteen were operated upon by the obliterative method; of these, one patient with external iliac aneurysm died from sepsis. Gangrene of the leg supervened in this case and in one with popliteal aneurysm. The two remaining operations were reconstructive in patients with popliteal aneurysm; in both the sac had already ruptured and both operations were followed by gangrene. Secondary hæmorrhage or failure to cure is not referred to in any of the cases. We have, therefore, one death only, and apart from this case gangrene following operation in 3 other patients, all of whom recovered after amputation. (See table.)

Comparison between these results and those obtained by other methods is not easy, but my table of 11 popliteal aneurysms reveals the misfortune of gangrene occurring in 3 patients, all of whom recovered after amputation, and with these we may contrast the results collected by Rigby from the London Hospital records.[4] The series includes 19 cases operated on for popliteal aneurysm by various methods other than that of Matas. Four of the patients suffered from gangrene of varying extent, 1 from secondary hæmorrhage, and 2 died as the result of the operative proceedings, but in both of them the sac had ruptured.

Argument in favour of particular methods based on statistics is difficult to apply in connexion with aneurysm, partly on account of the rarity of the disease, and partly on account of the varying conditions requiring treatment. I do not propose, therefore, to express any dogmatic opinion on the value of the new treatment as compared with the older methods. Probably that surgeon will obtain the greatest success who restricts himself to no single line of treatment, but selects that most appropriate in the case immediately before him. For example, influenced by my two successful cases of subclavian aneurysm, I should in similar circumstances again tie the axillary and the common carotid, but I am very favourably impressed by the advantages of endoaneurysmorrhaphy and shall gladly adopt it under suitable conditions. Obliteration is likely to hold the field for the majority of cases; it may be fairly said to have proved its claims. In carefully selected cases restoration of the artery promises brilliant results and should, I think, certainly be adopted where possible. Reconstruction has not so clearly established its claims and should, I think, be used but rarely and when the conditions for reconstruction are unusually favourable.

In conclusion, I would like to express my admiration for the scientific and skilful work of Dr. Matas in injuries and diseases of the vascular system.

Birmingham.

[2] Transactions of the American Surgical Association, 1910.
[3] Journal of the American Medical Association, Nov. 14th, 1908.
[4] Proceedings of the Royal Society of Medicine, vol. iii., Part I., 1909-10, Clinical Section, p. 131.

THE EARLY DIAGNOSIS AND TREATMENT OF EPILEPSY.[1]

BY E. FARQUHAR BUZZARD, M.D. OXON., F.R.C.P. LOND.,

OUT-PATIENT PHYSICIAN TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN-SQUARE, AND TO ST. THOMAS'S HOSPITAL; CONSULTING NEUROLOGIST TO THE ROYAL FREE HOSPITAL AND TO THE HOSPITAL FOR DISEASES OF THE THROAT, GOLDEN-SQUARE.

THE subject of epilepsy is so large that when one chooses it for the purpose of a lecture one is obliged to limit one's observations to a comparatively small aspect of the question. I have taken the title of early diagnosis and treatment, because it will enable me to bring forward certain points in connexion with epilepsy which are not only of interest but of practical importance. There is probably no form of serious nervous disease with which the general practitioner is more often brought into contact than epilepsy, and yet there is some lack of confidence displayed by many medical men in dealing with the diagnosis and treatment of this distressing malady.

Epilepsy is an unpleasant subject for two reasons. In the first place, the obscurity which surrounds its pathology remains obstinately dense; in the second place, it is regarded—particularly by the public, and largely, too, by the medical profession—as a disease for which little or nothing can be done. It will be my object not to make a vain attempt to throw light on the pathology of epilepsy, but to endeavour to show that the prevailing gloomy views on the subject of treatment are not altogether justified. Perhaps I ought to say that these gloomy views would, in my opinion, tend to disperse if the diagnosis of epilepsy were more often made at an early stage, and the treatment carried out in a more methodical and intelligent manner.

Statistics are largely responsible for the lack of confidence displayed in the treatment of epileptics, but they should not be taken too seriously. They generally deal with material which has been collected or observed in the out-patient department of a nervous hospital or in one or other epileptic colony. The data derived from either of these sources are eminently fallacious. In the former case the physician who makes his observations has no means of checking the carrying out of the treatment he prescribes, is quite unable to know how far his instructions are obeyed, and is ignorant of many important points in the conditions under which his patients live. In the case of epileptic colonies, the subjects of observations and study, if they are observed and studied, are mostly epileptics of some standing, with regard to whom the question of early diagnosis can no longer be raised.

It must be the experience of many others besides myself that epilepsy in private practice has a happier, or at any rate a less unhappy aspect, and that the results of treatment are often more gratifying than mere hospital experience would lead one to expect. I ascribe the encouragement which is afforded by the treatment of private epileptic patients to three principal causes. The first is based on the fact that early diagnosis is more frequent, although not nearly so frequent as it ought to be. The second relates to the fact that careful observation of the physician's instructions and a considerable degree of regularity of treatment can often be procured. Thirdly, opportunities for studying the individual characteristics of the patients and of their reaction to remedies are sometimes available.

Let me take each of these three points in order and develop them with illustrations.

[1] Being a clinical lecture given at the National Hospital for the Paralysed and Epileptic.

1. *Early diagnosis.*—The importance of early diagnosis is often brought home to us while we are learning the *history* of cases which come to us for advice, and it is unfortunately by no means an uncommon occurrence to find that epilepsy has not been recognised in what I shall call its embryonic stage. If the histories are taken of a very large number of epileptics it will be realised how frequently the typical epileptic attacks have been preceded, perhaps for weeks or months or even years, by phenomena which might have been, but which often have not been, recognised as epileptic in origin. I shall have more to say about the nature of the phenomena of the embryonic stage later on. I will now only refer to an example or two for the purpose of emphasising my meaning.

CASE 1.—A married woman, 36 years of age, came to see me in November, 1910, with the following story: About Easter, 1909, she suddenly experienced a nasty sensation rising from the stomach into her mouth which caused her, as she says, "to fight for her breath," but which rapidly passed away. Another attack occurred a week later, and others more frequently up to three or four a day for some months. Just previous to her coming to me she had had two attacks which had differed from the others in the fact that they had ended in complete loss of consciousness.

It is important to note that the subjective sensation in each of these attacks was *identical*, and it may also be noted that occasionally they were followed by vomiting. These attacks were undoubtedly of epileptic origin, but a considerable period elapsed before they were recognised as such. This patient's brother was also an epileptic.

CASE 2.—Another patient, an unmarried woman of 30, gave a somewhat similar history, but one in which the diagnosis of the embryonic stage was certainly more difficult. She had been subject for four years to attacks about which little was known except that they ended by waking her up suddenly in the night. During the two months preceding her visit to me the nocturnal attacks had culminated in a general strong convulsion. A younger sister of this patient died from dementia præcox about four years previously.

Numerous other instances could be related as examples of this kind of history, but I will pass on to my next point. I want to draw attention to the fact that first attacks of epilepsy are frequently disregarded or treated as if they were matters of no importance.

CASE 3.—A young lady, 20 years of age, who happened to be a first-cousin of another epileptic patient of mine, started her epileptic career with a typical attack at the age of 19. She was seen immediately by a medical man, who ordered treatment, probably bromide, for a week or two, but did not propose that it should be continued. Nearly a year elapsed before the second fit, but the intervals had subsequently become very much shorter. I ought to add in regard to this case that before the first fit there had been two occasions on which the patient had fainted in church. This is a point to which I shall return later on.

Such histories are common enough, and one often learns that these initial attacks are somewhat carelessly attributed to a hot room, unusual fatigue, an overloaded stomach, sunstroke, or other incidents which, although they may have had an exciting influence, ought not to have been regarded as sufficient to explain an epileptic convulsion or to justify anything but a serious consideration of the future.

It may well be asked whether the occurrence of a single epileptic convulsion may ever be regarded as a matter of little significance, especially in a young subject, and also what are the conditions which may excite a convulsion without raising suspicion that the patient is suffering or beginning to suffer from epilepsy. It is generally acknowledged that a convulsion is more easily excited in childhood than in adult life, and this is particularly well illustrated in connexion with the acute specific fevers. It is also often maintained that a history of so-called teething convulsions is commonly obtained in epileptic patients, although I am not altogether satisfied that the relationship between the early convulsions and the later epileptic fits is always properly understood. In my opinion it would be much safer to regard all convulsions occurring after 18 months of age as evidence of an epileptic tendency, unless the attack be associated with some infective disease such as one of the acute specific fevers, or septic conditions, such as tonsillitis. There can be little doubt that convulsions which occur in the presence of pyrexia and toxæmia have not the same grave significance as those which occur in the absence of those conditions. On the other hand, it is unjustifiable to be content with reasons such as an overloaded stomach, a stuffy room, or too much excitement for explaining the incidence of an epileptic attack. After all, epilepsy is a very common disease, and every epileptic must have a first epileptic attack.

In contrast with the three cases I have referred to let me mention that of a young man of 22 who recently consulted me about his nerves. At 12 years of age he experienced an epileptic fit, but he obtained good advice and took bromide treatment for five years, with the result that there has been no recurrence.

2. *The importance of carefully carrying out all instructions and of regularity of treatment* is constantly emphasised in the stories we are in the habit of hearing. The most striking lesson to be learnt in this connexion is the disastrous result which frequently overtakes the too early cessation of successful treatment. Still more worthy of emphasis is the fact—I might almost say the notorious fact—that although treatment by bromides may be successful in the first instance, the second attempt on the same lines after treatment has ceased and recurrence of fits has taken place, is seldom attended with the same favourable results.

CASE 4.—Some years ago a young woman came to see me as an out-patient at this hospital on account of epileptic fits. She was ordered bromide, with the result that she had no fits for a period of 19 months, at the end of which she took a place as domestic servant under a mistress who insisted that she should transfer her attendance from this hospital to a homœopathic institution. Her fits soon recurred, with a result that her mistress dismissed her from her situation. She returned to me as an out-patient, but the resumption of bromide failed to be as successful as it was during her first attendance. In many other instances the fault lies with the patient, who takes upon himself to decide when he shall discontinue his medicine and often repents his indiscretion.

3. *Special attention to individual characteristics.*—I can best explain the importance of careful attention to the features of individual cases by giving you two striking examples.

CASE 5.—A girl, whom I first saw at the age of 22, had experienced her first nocturnal epileptic seizure at the age of 14. Treatment by means of bromide had been instituted at once, and continued with regularity, and when she came to me she had had no attack for three years until a few days before my interview. In conversation with her I ascertained that ever since the age of 14 she had very frequently experienced sensations of a peculiar character, which she described as "feeling queer and detached from herself." These had always been sudden in onset, lasting a few seconds, but liable to repetition several times in a less intense form for perhaps 15 or 20 minutes. They were always provoked by exposure of the surface of the body, and especially when washing other parts than the face and hands. Thus, they would occur during or after her morning bath, or when changing her clothes before dinner. They would never occur at any other times than those mentioned, but before she had begun to take her nocturnal dose of bromide she used to wake in the night with similar sensations. A few days before she came to me one of these sensations had become gradually more intense until she fell unconscious on the floor. In view of this story I ordered a dose of 15 grains of bromide to be taken every morning after a cup of tea she was in the habit of taking in bed, and also on other occasions when about to change her clothes. The nocturnal dose of bromide, amounting to about 35 grains, was continued.

Nearly three years have elapsed since this treatment was commenced, and during that time there has been no repetition either of the major attacks or of the peculiar sensations I have just described. Moreover, attention ought to be drawn to the fact that, in spite of the consumption of about 50 grains of bromide a day, this young woman is brimful of energy and lacks entirely any of the symptoms which are so frequently, but generally so undeservedly, ascribed to the effect of that drug.

Let me record one other experience of the same kind.

CASE 6.—In 1905 I was consulted by a man, 29 years of age, who had suffered from nocturnal attacks of epilepsy for three years and from momentary attacks of giddiness during a somewhat longer period. I prescribed 25 grains of bromide with 3 minims of Fowler's solution and 5 minims of tincture of digitalis to be taken every night, and a year later the patient returned to me with the story that he had had no nocturnal attacks for nine months. On account of his occupation, however, he was much bothered by momentary paroxysms of confusion and giddiness, and I ordered a dose of 15 grains of bromide to be taken every morning in addition to his previous evening draught. I did not see this patient again until September, 1911, when he told me that soon after his last visit he became free from his minor attacks and remained so until December, 1910. Unfortunately, he had by that time given up all his medicine, with a result that he had two nocturnal attacks in that month, and in spite of resuming his medicine had three more in August, 1911.

This case serves the purpose of demonstrating both the advantage to be gained from studying individual attacks and the disadvantage of discontinuing treatment without advice. It also adds another to the list of cases in which a return to the path of wisdom is not attended by the result it deserves.

So far I have confined my attention chiefly to stories from which the moral has to be enforced by consideration of what has taken place in the past. Let me now turn to another aspect of the same question, which I am in the fortunate position of being able to illustrate by one or two striking experiences. As a consulting physician I am not in the position to benefit by these experiences to anything like the same extent as can medical men who are in general practice and who will take the lessons I have learnt to heart.

CASE 7.—It so happened that a year or two ago I had occasion to see a child of 13 years of age on account of some trifling temporary malady.

and quite accidentally I gathered the following story from the nurse who looked after her. About three months before my visit the child had a fainting attack in church one Sunday just before a menstrual period, and the account of that attack suggested a slight syncope. Since that occurrence, however, the child had become increasingly subject to what she called "waves." These occurred almost every day, generally before or during breakfast, often repeated in the morning, and hardly ever in the latter part of the day. She described them herself with difficulty. She said they were not like feeling faint, but gave her the feeling of being very ill. They came on quite suddenly when feeling perfectly well and without any warning. They lasted a few seconds and left her perfectly well again. They were unattended by any visual, olfactory, or gustatory sensations. No skilled observer had seen her in them, but the mother said that she would sometimes look quite ill during the "wave," and at other times show nothing in her appearance. She would only stop what she was doing for a moment, and then go on with her meal or whatever her occupation happened to be.

I determined to test the nature of these attacks, and I was more strongly influenced towards doing so by the knowledge that the child was at the crucial age of puberty and that she had every reason to inherit a neuropathic tendency. I ought to say that a very thorough examination revealed no signs of disease in any organ. I gave her 15 grains of sodium bromide to be taken at bedtime and after breakfast for three days. The result of this was an immediate cessation of all "waves." I then stopped her medicine, and after an interval of two days the attacks returned. Since that time she has taken medicine of the same kind but in smaller doses with perfect regularity, and she has never had a faint or a "wave" of any kind.

It is interesting to note that the freedom from these attacks had a beneficial effect on the girl's spirits and general health, and although two years have nearly elapsed I think it is only wise to continue the treatment for a considerably longer period.

CASE 8.—Last year a woman of 26 consulted me about attacks from which she had suffered for about 12 months. She described them in the following terms: "Everything goes black suddenly with mauve spots, and then a vision of Heaven (people floating about with musical instruments, &c.), and then this fades into blackness again and recovery takes place." She added: "These visions are funny because I am not at all a religious person." I was interested in finding that the administration of 15 grains of bromide twice a day effectually stopped the attacks, but for how long I do not know, as I have lost sight of that patient.

CASE 9.—Four years ago I saw the small daughter of a medical man who was then three years of age, and who had suffered for a year from momentary attacks in which she put her hand to her head, said she was poorly, reeled a little bit and immediately recovered. The administration of 7½ grains of bromide, together with 2 minims of tincture of belladonna, at first three times a day and latterly twice a day, has been sufficient to keep her free from attacks up to the present time. This is an example of successful treatment in a class of case which is often very intractable, and one cannot help feeling that much of the success is due to the care and regularity with which the treatment has been carried out.

These last three cases are instances with regard to which there is practically no doubt as to the diagnosis. Others are to be met with in which it is sometimes difficult to form a definite opinion.

CASE 10.—Quite recently I saw the 14-year-old daughter of a gentleman who was fully alive to the importance of not overlooking anything of a suspicious character at that age. This child had suffered from typical attacks of migraine associated with visual troubles, such as hemianopia, for two or three years, and these had been fairly well controlled by the removal of meat from her dietary. During the last year or so she has suffered, however, from momentary attacks of what one may call mental blankness, generally occurring when she is sitting at her lessons. She described them as being sudden in onset and constituting a complete blankness of mind lasting not more than five seconds, at the end of which her recovery was instantaneous and complete. She would find as the result of a blank period that her writing had been upset, so that letters were completely misplaced in a word. Her governess described one attack which she observed when the child was finishing a sum and related how her pencil wandered about in an aimless way and her face became vacant for a few seconds before she pulled herself together, and finished the task perfectly correctly. I thought it advisable to prescribe small doses of bromide for this girl and have found that for some months now there has been no recurrence.

CASE 11.—A still more difficult case has come under my notice in the person of a young woman of 23, who gave a history of having suffered from night terrors and somnambulism since early childhood. She now experiences frequent attacks which she describes in this way: She goes to sleep and wakes up either to scream or to find herself screaming. She sometimes knows what is frightening her, but not recently. It used to be "as if she was going to be stabbed or shot." She sometimes finds herself out of bed, on one occasion trying to take a picture down, and on another trying to take something from the gas. She goes to bed and is soon asleep again. In addition to that she has suffered from momentary faintness or nausea on several occasions, but each of these has been connected either with exposure to unusual heat or to pain or to some form of fright.

This is a case which puzzled me very much when I saw the patient a year ago, and I am bound to say I have not solved the mystery, as the administration of various drugs, including bromide, has not appeared to make much alteration in her condition.

If these various phenomena, which I have described as belonging to the embryonic stage of epilepsy, are of so much importance, it might well be asked how they are to be recognised. It is perfectly true that the symptoms in one case are almost always different from those of another, but there is one general characteristic which is of the utmost significance. I refer to the fact that all these attacks are absolutely sudden in their onset, that they always occur when the patient is feeling perfectly well, and, most important of all, that in each individual each attack is identical in character with the last. One might add that in the majority of instances the recovery from the attack is also sudden and complete. In some, however, there may be some temporary feeling of illness, and in others nausea, or even vomiting, may occasionally occur. Too much emphasis cannot be laid upon the similarity of one attack with another for purposes of diagnosis.

In doubtful cases it is well to take some notice of the age of the patient whose case is being considered. The age of puberty is the most important, but similar tendencies are displayed at almost any age and especially in connexion with the climacteric, and not very infrequently in connexion with pregnancy. The convalescence from any one of the acute specific fevers is also a period during which initial symptoms of epilepsy are wont to develop, and they should not merely be regarded as signs of weakness.

It is not my intention here to classify the various kinds of phenomena which may occur in the embryonic stage of epilepsy, and I am fully aware that I have mixed up cases which may well be regarded as instances of petit mal with others in which the attacks might justifiably be called aurae of epileptiform character. To my mind the classification and nomenclature of these attacks are of little significance compared to the practical importance of their recognition. As it happens, however, I have had reason to mention the occurrence of so-called "faints" in several of these cases, and I would urge every medical man when inquiring into the history of so-called faints to insist upon a detailed description. Faints amongst boys and girls are common enough, especially in connexion with church services, concerts, lectures, and under conditions in which bad air and heat are present. It must not be too lightly assumed that all such attacks are merely syncopal in character. Here, again, the suddenness of the loss of consciousness which so often occurs is suggestive of an epileptic tendency. I mean by suddenness of loss of consciousness that form in which the loss is not preceded by any sensation or appearance of being queer, or giddy, or sick. Observations made at the time with regard to the pulse are, of course, useful, although not often available. The most important point to remember is that crowded rooms and heat must not be regarded as sufficient evidence of the cardiac nature of an attack, because it is an undoubted fact that these causes are sometimes the exciting factors of seizures which are certainly of epileptic origin. The same remarks apply to exciting causes, such as indigestion, fright, sunstroke, &c.

Before leaving the subject of the embryonic stage of epilepsy, I must refer briefly to a subject which has aroused a considerable amount of attention in recent years, and that is the occurrence of what are called "regional jerks." A great many healthy people are familiar with the fact that while they are dropping off to sleep they may be aware of a single momentary twitch or jerk of one of their limbs, and to this they rightly attach little importance. It appears, however, that an exaggerated form of this experience is a frequent precursor of epilepsy, and as such should be classed among the other phenomena of the embryonic stage. These jerks, even when severe and often repeated, are seldom mentioned voluntarily by patients, and questions should be asked as to their occurrence if their prevalence in epileptics is to be recognised.

CASE 12.—Within the last year I was consulted by a young lady, 27 years of age, who had fainted on one occasion without apparent cause at the age of 12. Since that time she has been subject, and increasingly subject, to what she calls her "jumps." These occur just before going to sleep, and particularly in the early morning when dressing or having her breakfast. So severe are these sudden involuntary movements of her limbs that the comb with which she is doing her hair may fly out of her hand to the other side of the room. On some occasions a similar accident has befallen her breakfast cup. The lower limbs also are affected, and sometimes so severely that she has been thrown down on to the floor without, however, any suggestion of loss of consciousness, or giddiness, or faintness. In this particular case I prescribed 20 grains of sodium bromide to be taken twice a day, with the result that all jerks of this kind are in abeyance and the patient feels all the better for it.

It has been noticed that in persons who have suffered from major attacks of epilepsy regional jerks have a tendency to become unusually frequent just previous to an attack. In other instances the jerking phenomena have ceased when the major epileptic attacks have become prevalent. This is not the place to discuss the relationship of this condition to paramyoclonus, but probably the two conditions have close associations.

I should not be justified in concluding my remarks without uttering a warning to the effect that these phenomena of embryonic epilepsy must not be assumed to belong only to the idiopathic form of the disease without a careful consideration of the history of the case and a conscientious examination of the patient. Similar phenomena are sometimes the earliest symptoms of gross organic disease.

CASE 13.—A few years ago a medical man began to experience sudden attacks in which he became conscious of a peculiar taste and smell, with slight mental confusion or dreaminess. In spite of his professional knowledge he attached no importance to their occurrence, and six months later fell unconscious in a typical epileptiform seizure which caused him to seek advice. His case was carefully gone into by an experienced physician who found no signs of organic disease and who treated him with bromide. A year later I had the opportunity of examining him and found as the only physical sign some weakness of the right side of the face during emotional movements, together with an indefinite plantar response on stimulating the right foot. Soon after this he began to suffer from severe headaches and occasional vomiting, and, to cut a long story short, he died from the effects of a large infiltrating glioma of the left temporo-sphenoidal lobe in the course of a few months. His early attacks were really the first symptoms of this growth in the brain and typical of tumours in the temporal lobe.

I have endeavoured to impress upon you the importance of recognising the early stages of epilepsy, and although I am aware that it might be justifiably said that many of the cases I have related do not deserve to be recorded as successful attempts at arresting the disease, yet I cannot help feeling that such cases are encouraging where encouragement is sadly wanted. In any case the fact that the true nature of a serious disease has been appreciated in its earliest stage, and the fact that treatment at any rate postpones the graver developments cannot but be a source of some satisfaction to both patient and medical man. Let me remove any false impression I may have aroused that all cases of epilepsy can be treated as successfully as many of those which I have brought under notice. I have purposely chosen cases which, from their favourable response to treatment, have appeared to point the moral upon which my lecture has been based.

In what I have said little mention has been made of the details of treatment. I do not propose to say much about these details, but merely to state my firm conviction that the successful treatment of epilepsy depends chiefly upon drugs. The bromide salts are by far the most important weapons we have at hand, but useful help is often obtained from the addition of other drugs, such as arsenic, digitalis, belladonna, borax, &c. Only experience can teach the physician what particular combination is efficacious in each particular case, and it is the greatest mistake in the world to treat, or to attempt to treat, epileptics like a flock of sheep, or to follow the example of an institution for epileptics where it was the rule to give every inmate one dose of bromide every night. My object has been to emphasise the importance of treating each patient on his own merits, treating him early, and treating him with perseverance.

As far as epilepsy is concerned surgery is a lamentable failure. Perhaps no reasonable person would expect the surgeon's knife to be of much service in the ordinary idiopathic cases, but unfortunately it is certain that even in traumatic cases of epilepsy operative interference is rarely, if ever, attended by any permanent good results. I have seen personally a good deal of operation in the case of traumatic epilepsy, and I have never seen a good result. On the other hand, I know that there are epileptic institutions and infirmaries containing many cases of epilepsy which have been operated on. Many of them are not only still epileptic, but also more or less paralysed. You may sometimes read or hear of the surgical removal of epileptogenous zones—that is to say, those portions of the cortex which, from disease or injury, are supposed to be the source of epileptic attacks. Such removals can only be attended by severe injury to the part. The surgeon's knife produces trauma just as easily as any other mechanical interference, and scar tissue has to follow the use of the knife as it has to follow any other form of injury or disease. The excision of pieces of scarred cortex, therefore, is a useless proceeding, as it can only be followed by the formation of a fresh scar, and practical experience confirms what one would expect to be the natural result. One finds, in fact, that in cases of traumatic epilepsy an operation is often followed by temporary cessation of fits, but that eventually the fits return, and sometimes the patient is handicapped by the fact that he has lost his aura or warning, or that he has lost the use of one or more limbs. On the other hand, there are cases in which exploration is not only justifiable but desirable, so long as these points are remembered and too much hope is not aroused as to the results of operation.

Wimpole-street, W.

LINEÆ ATROPHICÆ, ACHLORIDURIA, AND TYPHOID FEVER.

BY J. C. F. D. VAUGHAN, M.R.C.S. ENG., L.R.C.P. LOND.,

SURGEON, ROYAL NAVY; LATE HOUSE SURGEON, ST. THOMAS'S HOSPITAL, AND EAST LONDON HOSPITAL FOR CHILDREN, ETC.

IN calling attention to the following unusual case, I believe only further observations on similar conditions can show with any certainty whether it is a primary, little-discussed ailment, probably owing to an excess of chlorides in the system due to faulty elimination, or whether it will prove to be a help in the early diagnosis of enteric fever.

Lineæ atrophicæ, lineæ albicantes, striæ, lineæ maternæ, lineæ gravidarum, &c., are very common in pregnancy, ascites, and conditions of distension, and are not uncommon about the axillæ and thighs of men who have grown adipose quickly, but in the following case there was no history of œdema or increased fat, the patient being very definite on these points. Fagge mentions cases apart from œdema, and Duckworth, quoted by Osler, speaks of lineæ atrophicæ in connexion with typhoid fever; but I have been unable to study the literature upon the subject, and for myself can only put forward a vague and unsupported feeling that they are more common in sea-going men than in men of the same class on shore.

The patient had a normal family history, his father, mother, and a brother, aged 12 years, being alive and well. He himself used to "wet his bed" at night when a child, but he believed this stopped when about eight years old, and he had suffered from no other illnesses. He joined the Royal Navy when a boy and his medical history sheet supports these statements. The ship from which the patient was received (Sept. 4th) had been on preserved food (including salt pork every third day) for the two previous weeks, and had also been on preserved food for three days during the two antecedent weeks. Lime-juice had been issued. The patient stated that during two months before admission his face had been gradually swelling, and during the last three weeks he had been turning out three or four times a night to micturate, but never wetted his hammock. He continued work, feeling perfectly well and free from pain except "off work at times," owing to consequent lack of sleep, and was very definite that there had been no œdema. About August 10th he went to the sick bay owing to frequency of micturition, and was passing between 80 and 90 oz. of urine per 24 hours, with specific gravity 1010, containing no albumin nor sugar. The polyuria was for a time slightly improved by belladonna, but it relapsed. On Sept. 1st, while having a bath and feeling quite well, a messmate pointed out to the patient streaks in the lower lumbar region and suggested that "he had had a dozen." He then went to the sick bay and was admitted, and fresh lineæ atrophicæ were found on the thighs and other places as described later. Urticarial wheals (tache cérébrale) were found to be easily raised by scratching the skin. The face was swollen, but there was no other sign of œdema, no pyrexia, and no itching. Polyuria (about 88 oz. in 24 hours) continued without albumin or sugar.

The patient was admitted to the Royal Naval Hospital, Haulbowline, on Sept. 4th. He was a tall, well-grown boy, aged 18 years, of fair intellect and not of a neurotic type, and he felt quite well. His face was swollen with a firm œdema, which extended over it and on to the upper inch of neck in front, but did not include the scalp, ears, or lower part and back of the neck. The skin of the face was red and very coarse, being covered with projections from distended glands, but was capable of sweating, and was not sufficiently swollen to interfere with the palpebral apertures. There was also slight œdema of the lower third of the shins, but I was assured by Surgeon W. Miller, R.N., who had previously attended the case on board ship, that it was then apparent for the first time. (It disappeared by the following day, but recurred for a few hours on Sept. 6th.) On the skin transversely across the lower lumbar region just above the buttocks was a band from 2 to 2¼ in. broad, composed of very well-marked lineæ atrophicæ. The individual lines were straight, broadest in the middle, and pointed at the ends, measuring up to 4½ in. in length (there being several of 4 in.) and between ¼ and ⅓ in.

in maximum breadth. The edges were sharply cut and fairly straight. The surface of the lineæ atrophicæ was so much deeper than the surrounding skin that they showed distinctly in a plaster cast of the patient's back. This surface was composed of unbroken healthy cuticle continuous with that of the surrounding skin. It showed no scarring, but was anæsthetic while the skin between the stripes was normal; the cuticle could be puckered up in a normal manner and was not bound down. The colour of the lineæ varied with the light, being composed of numerous distended capillaries running vertically across the lines with a whitish background between them, so that they appeared glistening white, pink, or dark reddish-brown according to the light. On the outsides of the thighs were numerous well-marked irregular lineæ atrophicæ commencing a short distance below the iliac crests. Many of these ran an irregular interrupted course downward, and slightly forward to the middle of the external surface of the thigh, while others, commencing especially in the fossa behind the great trochanter, ran downwards and backwards towards the gluteal fold. These lines appeared pearly grey when looked at directly, but when reflecting light gave a silvery sheen. Scattered about the legs, axillæ, and thighs, but not on the feet, were numerous other short lines chiefly transverse in direction. The skin, except on the face as previously described, appeared soft, moist, and normal and was capable of sweating, but if scratched with a penholder it developed red urticarial wheals which lasted for two or three hours and then completely disappeared. The chest on examination appeared normal, except that the heart-rate was 96, and appeared a little forcible owing to the prevailing high arterial tension. The abdomen was normal, the spleen could not be felt, either then or after, and no spots appeared.

The nervous system was as follows. Both Babinski signs gave an extensor response, the left knee-jerk was just obtainable, while the right was absent; otherwise it was normal. There were no signs of congenital syphilis. Urine 93 oz. in the first 24 hours, specific gravity 1012, acid, no albumin, no sugar, and contained some hyaline casts together with a precipitate of phosphates. Temperature normal on and previous to admission. Tongue pale, flabby, and rather dry, the patient having a "dry taste in his mouth." No organisms were seen on microscopic examination of the blood. A blood count on Sept. 10th was as follows: Red blood corpuscles, 5 220,000; and white corpuscles, 9500 (approximately). A differential count gave the following percentages: Polymorphonuclears, 73 07; eosinophilles, 3 07; myelocytes, 0·76; small lymphocytes, 8·4; and large lymphocytes, 15 38. One normoblast was seen during the count.

The patient felt quite well, only having occasional diarrhœa, till Sept. 18th, when he complained of a frontal headache, probably owing to his temperature, which had risen to 100·2°. The urticarial wheals had become markedly less by Sept. 7th, and soon afterwards could not be obtained. The nerve signs progressed inasmuch as by the 11th both knee-jerks had disappeared, but were both just present, though very diminished, on the 17th, after which they again were absent. The polyuria continued until the 25th, after which the quantity of urine was normal for one week, beyond which time it was not measured. The pulse, which was 96 on admission and 92 on the following day, increased in rate to 112, while the tension, which was markedly raised, commenced to fall, so that it was normal by Sept. 12th and had fallen to lower than usual by the 20th, after which the pulse was typically soft. The urine contained hyaline casts, and when again examined on the 22nd one or two granular casts were also found. The specific gravity of the urine remained at 1012 until pyrexia supervened, when it became typical febrile urine. Albumin first appeared as a very faint cloud on boiling on Sept. 10th, and was present to a slight extent on the 11th, 12th, 15th, and 21st, but then it disappeared. Chlorides calculated as sodium chloride gave the following strikingly low result in 24-hour specimens: Sept. 5th to 6th, 2 grammes; 8th to 9th, 2 5 grammes, or 2 grammes by another method of estimation; 9th to 10th, 7 grammes; 11th to 12th, 12 grammes[1]; 14th to 15th, 6·9 grammes; 20th to 21st, 7 grammes; and 23rd to 24th, 5 grammes, beyond which date they were not estimated, as the presence of pneumonia would in itself cause their decrease in the urine.

A few lineæ atrophicæ continued to be formed on the thighs and legs, especially small lines on the calves and sides of the knee, and those previously present became more marked. Widal's microscopic agglutination test was performed with a negative result on Sept. 15th and again on Oct. 3rd, when a 1 in 50 dilution of dead emulsion failed to clump in one hour but afterwards clumped in 75 minutes.

The temperature, which on and previous to admission had been normal, rose on the following day (Sept. 5th) to 99·4° and continued between normal and 99° till the 19th, when it rose to 100°. After the 22nd, partly owing to pulmonary complications, it continued between 101·2° and 100° until the 27th, beyond which time until the patient's death it varied between 103·4° and 100·2°.

On Sept. 24th, at 9.30 P.M., the patient passed a normal well-formed stool with about 2 oz. of dark blood clot, but no slime or sloughs. Cultures were immediately taken from this stool and cultivated on Löffler's malachite green gelatin and were found to consist of a bacillus resembling bacillus typhosus in appearance, which grew in plates of the medium as typical limpid, shining, greyish-yellow, granular cultures with numerous projections, and also clumped in 20 minutes with a 1 in 30 dilution of the blood serum of a known typhoid fever patient who himself afterwards perforated and died. The patient continued to pass one stool with blood each evening to the 28th, after which no blood was passed, and the bowels, though loose, were fairly normal, being opened about once a day. On Sept. 30th a normal, formed, small motion was passed, but on the following day (Oct. 1st) typical yellow semi liquid motions commenced and continued twice a day up to Oct. 3rd, after which there was incontinence of fæces.

The patient commenced a typical attack of pneumonia of the right lung on Sept. 23rd, and numerous cocci in pairs were seen in the sputum, but no tubercle bacilli. A smear culture from the peripheral blood on Sept. 24th taken in the hope of finding typhoid bacilli grew on blood serum opaque, whitish, oval cultures composed of Gram positive cocci, many in short chains and showing a great tendency to be in pairs as diplococci. These were presumed to be pneumococci. The pneumonia increased on Oct. 4th, all the right lung being consolidated and the left lower lobe; 25,000,000 dead pneumococci (St. Mary's Hospital inoculation department) were therefore injected under the skin of the flank. At about 1.30 A.M. of Oct. 5th an ulcer perforated, so that by 3.40 A.M. there was absence of liver dulness in the nipple line and dulness appeared in the flanks.

The patient was operated upon by Fleet-Surgeon P. Vaughan Jackson, R.N., under local anæsthesia, and the ileum was found to have every four or five inches a big transverse ulcer across half the lumen of the bowel, looking yellow, infiltrated, and raised in yellow nodules above the surrounding gut. One of these ulcers was found to be perforated, there being a hole 2/3 in. in diameter, which, owing to the weight of the gut in lifting it out, tore into a chasm half the lumen of the gut. Owing to the serious state of the patient this perforation was made into an artificial anus and the abdomen drained by a tube leading to the pouch of Douglas. The patient died at 6 P.M. on the same day. There was no necropsy.

I have to express my thanks to Fleet-Surgeon Vaughan Jackson and Mr. H. H. Sturch (dispenser, R.N.) for their kindness and assistance.

[1] Owing to the salt food before admission, the presence of abundant chlorides in the sweat, and the diminution of their excretion by the kidneys, it was considered that they were concentrated in the patient's system, and were possibly causing symptoms such as lineæ atrophicæ, swelling of the face, and high tension. Accordingly, a chloride reduced diet was devised for the patient, which was continued till Sept. 23rd, when pneumonia rendered its continuance inadvisable.

TUNBRIDGE WELLS GENERAL HOSPITAL.—A large number of people visited the Tunbridge Wells General Hospital on May 15th, when was opened the extension for the Roentgen rays and other apparatus with which Sir David Salomons has endowed the hospital. That gentleman subsequently lectured on the manifold properties of science, and presented the hospital with a tube of about 10 milligrammes of radium, which he asked might not only be used in the hospital but might be lent outside at a reasonable fee, the money to go towards the hospital funds. The gift was heartily acknowledged.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

The Surgical Treatment of Aneurysm.

A MEETING of this section was held on May 14th, with Mr. CLINTON T. DENT, the President, in the chair.

Mr. H. GILBERT BARLING (Birmingham) opened a discussion on the Surgical Treatment of Aneurysm. His paper is published in full in THE LANCET, p. 1399.

Mr. C. B. LOCKWOOD said that his experience of ligature of vessels for saccular aneurysm was limited to five cases of popliteal aneurysm. He had been struck by the way in which these leaked and by the disasters and difficulties which arose. After detailing the notes of these cases, he said that he considered that a saccular aneurysm was not a matter for delay, but for speedy operation. He used a sharp knife and not a blunt instrument, and twisted silk ligatures, and stitched the sheath of the artery over the ligature. As regards Matas's operation he felt disinclined to perform a plastic operation on a diseased structure.

Mr. D'ARCY POWER spoke of some results which had been obtained by the treatment of aneurysm by wiring, and demonstrated the apparatus devised by Mr. G. H. Colt for this purpose. The results of wiring without electrolysis and performed by the older method were as follows: Between 1864 and 1900 14 cases were treated, of which eight were thoracic and six abdominal. In the eight thoracic cases all the patients died from four days to one month after operation. In the six abdominal cases one lived 11 years and 10 months and died probably from rupture of the sac; one lived four years and died after a kick on the abdomen; one died 13 weeks after operation from rupture of the aorta at the origin of the sac; two were in a desperate condition and died soon after the operation. In one case death was probably hastened. The results of wiring by the older method combined with electrolysis between 1864 and 1910 were: Of 29 thoracic cases two patients, in whom the aneurysm involved the origin of the left subclavian, died, one on the second day, and one on the twentieth day; two in whom the aneurysm involved the origin of the innominate died, one 2 months and one 14 months later. Of the rest, one died 3½ years after the operation, one was alive 3 years later, and 20 others died at periods varying from 2½ days to 10 months, the average duration of life being 14½ weeks. One was alive 3 months after operation. Of seven abdominal cases, one died 5 years, one 8 months, one 47 days, one 20 days, and three from 5½ hours to 40 hours after operation. In 1903 Mr. Colt invented an instrument for the rapid introduction of a known quantity of sterilised wire into an aneurysm with a minimum of disturbance. The ease with which the wire was introduced defeated the object of the operation, for a loop of wire left the sac and entered the aorta. Up to the present six cases were recorded in which this accident had happened, independently of the size of the opening of the sac, by the older method of wiring through a cannula. In view of this occurrence another instrument was arranged to sever the coils from time to time without removing the needle from the sac, but was soon replaced by one of a new principle and design (figured in THE LANCET, Sept. 19th, 1903, pp. 808–813). The summary of the cases treated by this instrument was as follows:—(*a*) Abdominal: One alive and well 4 years and 9 months later, one alive and well 1 year and 8 months later, one alive and well 9 months later, one lived some months and died from pneumonia, one died 2 months later from leakage from the sac, one died 4 days after from rupture of the sac, one died a few days after from acute dilatation of the stomach, and one died 2 days after from ether pneumonia. The three patients who were alive and well had been entirely relieved of their pain. (*b*) Thoracic: One died from rupture of the sac externally, but not at the seat of the puncture. The chief indications for the operation of wiring were: (1) an aneurysm of the ascending part of the arch of the aorta, especially if X ray examination in two planes at right angles indicated sacculation; and (2) abdominal aneurysm in the usual situation—namely, at the origin of the cœliac axis. The chief contra-indications were rapid increase of pain or of pressure symptoms, the presence of a second aneurysm, sepsis, and involvement of the transverse part of the arch.

Mr. J. C. R. BRAINE-HARTNELL recorded a case of abdominal aneurysm in which wire had been introduced by him by means of Colt's apparatus. The patient died six days later, and a necropsy was made. He submitted as a criticism of this method of treatment the fact that the wire did not form in a cage as it is supposed to do; the wire that was used was too strong; and too much wire was introduced.

Mr. C. A. BALLANCE regarded Matas's method as an extension of the old operations of incising and tying above and below. Matas's obliterative operation was based on the old principle of Scarpa. He believed that only very occasionally would re-establishment of the circulation be possible, and was doubtful if the circulation so obtained persisted. In 1890 Sir Anthony Bowlby and Sir W. Savory had read a paper on the Hunterian method, based on 23 cases of popliteal aneurysm treated at St. Bartholomew's Hospital. Sixteen out of the 23 were immediately and permanently cured. Four had impending gangrene when admitted and amputation became necessary. Of three in which recurrent pulsation was felt, two were cured by rest in bed. One was cured by secondary ligature of the popliteal. He asked, was any new method required in popliteal aneurysm if the results were so good as that? Possibly in cases of aneurysm in other situations Matas's method was useful.

Mr. J. CHARTERS SYMONDS agreed with Mr. Ballance that with regard to popliteal aneurysm ligature of the femoral artery was so successful that it was unnecessary to face the difficulties which an operation on the popliteal entailed. With regard to the introduction of wire, he had once carried it out in the case of an aneurysm of the abdominal aorta. He used several feet of bronze wire, which after introduction caused no further trouble, but did very little good. When aneurysm occurred at the root of the neck he had employed distal ligation on more than one occasion with considerable success.

Mr. A. E. BARKER said that two cases of popliteal aneurysm had been treated by Matas's operation at University College Hospital. The operation was not difficult, but very easy. Both went smoothly, and the difficulty encountered was not much greater than by the Hunterian method. He had cured several cases of popliteal aneurysm by digital compression alone.

Mr. GILBERT BARLING replied.

A very large collection of specimens of aneurysms was exhibited, every hospital in London contributing to what proved to be a most valuable demonstration of all forms of the disease. Each specimen was accompanied by a brief typewritten description which greatly enhanced its interest and teaching value.

MEDICAL SOCIETY OF LONDON.

The Sphygmomanometer in General Practice.

A MEETING of this society was held on May 13th, Dr. J. MITCHELL BRUCE, the President, being in the chair.

Dr. F. DE HAVILLAND HALL opened a discussion on the Use of the Sphygmomanometer in General Practice. He stated that his object in reading the paper was quite a simple and practical one—viz., taking the sphygmomanometer with all its fallacies and limitations, was it likely to be of sufficient use to the general practitioner to justify the small outlay involved in buying the instrument, and the amount of time required to make the examination? His own experience of the instrument, though limited, led him to give an affirmative answer. As regards the sphygmomanometer he employed, he said that nearly all his observations were made by means of the Riva-Rocci instrument as modified by Martin. Dr. Hall pointed out the great use of the sphygmomanometer not only in enabling a definite record of the blood pressure to be kept, but also in revealing instances of increased blood pressure which might otherwise have been overlooked. He remarked on the great advantage it was to be able to keep a record of the blood pressure while patients were undergoing treatment with the hope of reducing tension and thus checking the action of the remedial measures employed. In endeavouring to take a common-sense point of view of the use of the sphygmomanometer all refinements of the "mean" and "diastolic"

blood pressure were disregarded, and he contented himself with recording the height of the column of mercury when the pressure in the band around the arm was sufficient to obliterate the pulse at the wrist. As a drawback to the use of this instrument he mentioned the amount of pressure which might be required before the blood stream was arrested. In one case death was said to have taken place in a consulting-room as the result of the use of a sphygmomanometer. Sir Lauder Brunton's figures as to the normal standard of pressure were quoted—viz, in young men the tension should be from 100 to 120 mm., in middle life 125 to 135 mm., and above 60, 145 to 150 mm. The increase in the blood pressure, which was commonly observed after the age of 50, was the expression of the changes which had taken place in the arteries, whereby they had become thicker, harder, and less elastic. Women registered 10 to 20 mm. lower than men. It had been suggested that for people of 15 years and upwards, if the figure 1 was prefixed to the age of the individual, the result would give the normal arterial pressure of the person—i.e., a man of 25 would have a pressure of 125 mm., and a man of 50 years of age a pressure of 150 mm. This was sufficiently accurate to be useful clinically, but it was rather too high for the older ages. Dr. Hall, in order to illustrate the value of the sphygmomanometer, took a series of consecutive cases as they occurred in his case book, and divided them into six groups, viz. :—

	Cases.	Deaths.
1. Cases with arterial pressure of 120 mm. and below...	35	2
2. ,, ,, ,, ,, ,, 121 ,, to 140 mm....	56	2
3. ,, ,, ,, ,, ,, 141 ,, ,, 160 ,, ...	34	1
4. ,, ,, ,, ,, ,, 161 ,, ,, 180 ,, ...	19	5
5. ,, ,, ,, ,, ,, 181 ,, ,, 200 ,, ...	12	5
6. ,, ,, ,, ,, ,, above 200 ,, ...	17	9

Low arterial pressure occurred in patients suffering from cardiac affections, Graves's disease, gastric derangement, neurasthenia, and excessive smoking, and was, therefore, to be regarded as an indication of a want of vitality. It was of very unfavourable omen in diabetes. In pulmonary and other forms of tuberculosis the existence of a normal or slightly increased pressure was a good indication, and, on the contrary, a low pressure meant feeble resisting power against the tubercle bacillus. But it was in cases in which the arterial pressure exceeded 160 mm. that the sphygmomanometer gave the most striking results. In the fourth group, out of 19 patients there were 5 deaths, 4 of which were connected with the high pressure. In the next group the effect of high pressure was shown in a still more striking fashion. There were 5 deaths out of the 12 patients—(1) a man aged 43, with arterio-sclerosis, who had a pressure of 190 mm., died from apoplexy; (2) and (3) were cases of chronic Bright's disease, aged 55 and 67 years respectively, the one died five weeks and the other six months after examination. In both these cases the pressure was 190 mm. The remaining 2 cases were females, 65 and 72 years of age respectively. The former had a pressure of 175 mm. and died from angina, the latter had a pressure of 185 mm., and though suffering from arterio-sclerosis she died from malignant disease. The sixth group—i.e., patients with a pressure of more than 200 mm.—gave the most startling results. In this group there were 3 females and 14 males. With the exception of one man, 34 years of age, all the patients were between 47 and 76 years of age. Among the 17 cases there were 9 deaths. One of the patients died from an enlarged prostate, 2 with arterio-sclerosis, one of these suddenly, and the remaining 6 died from cerebral hæmorrhage, more or less due to arterio-sclerosis. In all these cases death occurred within two years, in 5 within six months, and in 1 case death took place the day after examination. The pressure in the fatal cases varied between 210 and 260 mm. From an examination of these cases Dr. Hall was of opinion that the sphygmomanometer was capable of affording valuable information as to the condition of the patient. He also showed that it was not only useful as an aid in prognosis, but that it was of assistance in treatment by indicating the necessity for measures to be taken to lower the patient's tension, and at the same time enabling the effect of such treatment upon the pressure to be noted. Dr. Hall further commented upon the use of the sphygmomanometer in assisting in the choice of an anæsthetic and in the examination for life assurance. He also insisted upon its value in ophthalmology. Dr. Hall concluded his paper by drawing attention to the symptoms associated with high pressure. He laid especial stress on the importance of noting any marked diminution in pressure, apart from that designedly brought about by regulation of the diet and medicinal treatment, so as to be on the look-out for the earliest signs of heart failure. He added that though on the present occasion he was not discussing the treatment of high arterial pressure, he could not omit a warning against the incautious use of the vaso-dilator group of drugs.

Sir LAUDER BRUNTON said: I think the best single sphygmomanometer for ordinary practice is Martin's unspillable. For my own work I use the mercurial manometer for my consulting room, but for outside consultations I find it more convenient to employ an aneroid which I use in exactly the same way as a mercurial. It is more easy to carry, but its disadvantage is that it varies from time to time and should be corrected by comparison with a mercurial one about once a fortnight or so, so that the error may be ascertained and allowed for. In using it I estimate the systolic pressure in the usual way by feeling the pulse in the wrist, and I take as the diastolic pressure the point at which throbbing commences to be heard over the artery with a rising pressure or ceases to be heard with a falling pressure. I confess, however, that although I feel quite certain as to the estimation of the systolic pressure I am by no means quite sure of the correct estimation of the diastolic pressure. As I mentioned in a previous paper it is possible that the greatest intensity of sound indicates the diastolic pressure, but the objection to this is that this point is not well marked and considerable variations may occur according to the person listening. On the other hand, I find that, when the systolic pressure is estimated by feeling the pulse, the variation due to the personal equation between two observers is almost *nil*, for I find that men who have never tried it before read off almost precisely the same height that I read off myself. When the arteries are felt to be rigid at the wrist I sometimes take the pressure first in one arm, then in another, and if there is any variation I take the lowest reading. But this does not exist so often as one would expect. I find it useful to take sphygmographic tracings as well as measuring the blood pressure with the sphygmomanometer, because one can estimate to a certain extent from the pulse tracing the power of the heart as compared with the resistance it has to overcome. The sphygmogram gives us the measure of that resistance so that we can estimate to a certain extent the comparative effect of the heart and vessels in causing either a fall or a rise in the blood pressure as compared with the normal. I find the average tension to be 100–120 in young men, in middle age 125–135, and above 60 145–150, though even at that age the tension may remain at the normal. In women it is usually 10 or 20 millimetres lower. The most common causes of abnormally low tension are exhaustion by some acute illness, and especially influenza, commencing phthisis, and over-smoking. When over-smoking is the cause it is often advisable to stop entirely, because I think even a little will sometimes keep the tension low. If the tension is low after an acute disease it is advisable to prevent the patient from taking over-exertion, and insist upon a considerable amount of rest with gentle graduated exercises, and very often massage is useful. General tonics and nutrients, such as glycero-phosphates, malt, cod liver oil and iron, with perhaps some special cardiac tonic, such as small doses of digitalis and strophanthus are advisable. In suspected cases of latent phthisis it is well to get an X ray photograph of the chest so as to ascertain whether there is any thickening about the bronchial glands or not. In people above middle life the sphygmomanometer is of the utmost service, because it enables one to ascertain when the arterial tension is beginning to rise and to take precautionary measures by which, I think, the life of the patient can be very much prolonged. It is now 16 years ago since a patient came to me with bleeding of the nose. I gave him some nitrite of soda and nitrate of potash to take every morning. The bleeding ceased, but the patient was sceptical and thought it was a coincidence. He then stopped the medicine, when the bleeding started again, but on recommencing the medicine again the bleeding stopped. After two or three times he was convinced that the stopping of the bleeding was due to the continuance of the medicine, and he has continued with it ever since. He is now 76 years of age, his

pulse is 80, and his tension is only 150. In such cases the general rules which I lay down are very simple—not to hurry, not to worry, to keep the body warm, and the bowels open. The dietary rules are also very simple: to exclude from the diet butcher's meat and strong soups, but to allow anything else. I think in most of these patients, who are elderly, it is not advisable in every case to cut off stimulant, but to allow it only with meals or in cases of sudden faintness. For many patients it is not necessary at all. In a good many cases of high tension, where the heart is beginning to fail and the pulse becoming rather feeble and irregular, I think it advisable to give digitalis and strophanthus and nux vomica, in combination with some vaso-dilator, such as nitro-glycerine, sodium nitrite, or nitro-erythrol. If the patient will stand it iodide of potassium is, I think, a most useful drug. Where a patient cannot take this he is sometimes able to take the iodine compounds, such as tiodine, gliodine, &c. I think that occasionally a single dose of 25 to 30 grains at night is more useful than 5 grains three or four times a day. It is certainly easier to take and rather less liable to give rise to nasal catarrh.

Dr. LEONARD HILL said that from work done in his laboratory with Martin Flack, R. A. Rowlands, and W. W. Holtzmann they knew that the systolic pressures, measured in the arteries of the arm and leg, were the same in young men when lying quiet and in the horizontal posture. They differed by the hydrostatic pressure of the column of blood, which separated the points of measurement, when the subjects were standing or placed in the inverted posture. In these positions the pressure in the arteries of the leg varied greatly, while in the arteries of the arm the pressure was kept about the same by the mechanisms which compensated for the influence of gravity. The conclusion was drawn, therefore, that the blood pressure in the ascending aorta was kept practically the same in all changes of posture. The systolic pressures taken in the arm and leg differed widely in cases of aortic regurgitation, so much so that this difference became of diagnostic value. The difference might be as much as 100-150 mm. Hg. It might be abolished by placing the buttocks and legs in a bath of hot water. It did not suffice to put the feet alone or the buttocks alone in hot water. He found that the readings of systolic pressure taken in the arm and leg might differ immediately after a short period of violent exercise such as stair-climbing. The difference was made noticeable by placing the arm in hot water before and after the exercise. The factor which produced the difference was the varying conducting power of the wave by the arterial wall. A large amplitude of the systolic wave made the variance in conducting power evident. The crest of the wave was conducted better down the leg arteries, for these were slightly thicker and more contracted and resilient. The arteries of the leg were kept more contracted in cases of aortic regurgitation and the systolic wave was a high one. The difference was not noticeable when the case of aortic regurgitation was not compensated and the systole not forcible. In old people with stiffer arteries a difference might be apparent. Also the compensation for the effect of gravity was not as perfect in them. The pressure in the arm might vary in these in the three postures. The accuracy of the readings of systolic pressure might be tested by obstructing the venous return by an armlet in which the pressure was maintained at a level 5 mm. less than the observed systolic pressure. The veins peripheral to the armlet filled up and the blood within them finally attained to the obstructing pressure and exceeded it. When this happened venous blood escaped from under the armlet, as might be seen by squeezing a vein (above the armlet) empty up to the next valve and seeing whether it refilled from below. The walls of the superficial veins could not be supposed to bear off any of the pressure, and if the venous pressure reached within 5 mm. of the determined systolic pressure it was clear that the arterial wall had not influenced the reading.

Dr. GEORGE OLIVER said that his experience of registering blood pressures by mechanical means had extended over 30 years. He fully agreed as to the value of the instrument in cases of cerebral vascular disease with high or low blood pressure. Low blood pressure led to thrombosis, high to hæmorrhage. This was a point of great practical importance. Of late years he had come to the conclusion that the reading obtained of the diastolic pressure was as precise as that of the systolic, and that a knowledge of the diastolic pressure was a matter of great moment. He could remember many cases with high systolic but low or normal diastolic blood pressure, and these had served to correct his view of the seriousness of high systolic pressure in some cases. The estimation of the systolic pressure caused some patients great discomfort, and thus a misleading pressure was obtained. Of the two he would select the diastolic pressure as the more valuable. He thought this was a point worthy of further study by the auscultatory method, a method he regarded as of the highest clinical importance. There was no reliable scale of blood pressures, indicative of the normal for different ages; the individual had to be considered in each instance.

Dr. A. M GOSSAGE pointed out that the discussion was on the use of the sphygmomanometer in general practice. This might be viewed from two standpoints, either for the obtaining of clinical information as a corrective to the trained finger or as an instrument of research. For the first purpose there were certain objections to instruments founded on the Riva-Rocci pattern. These required time to adjust, and many nervous patients objected to them. Further, the consequent nervousness raised the blood pressure, and it was necessary to wait some little time after adjustment of the armlet to obtain an accurate reading. This had been exemplified during a demonstration to some students, where the pressure of those who played the rôle of patients had in each instance been 10 mm. of mercury higher at the first reading than it was some 10 minutes later, and in nervous people such a difference was likely to be exceeded. For purely clinical purposes he considered that Leonard Hill's small instrument was sufficiently accurate; while it did not frighten patients, could be used quickly, and was easily portable. For research work a larger instrument was necessary. The mercury manometer was the standard to which all the recording instruments were compared. While there could be no instrumental error in directly reading the height of a column of mercury, it was important to remember that other forms of apparatus might get out of order, and they should be compared periodically with the direct column of mercury. He was pleased to hear Dr. Oliver refer to the diastolic pressure. To-day the systolic pressure was the more generally recorded, and the more useful, but to-morrow they might find that the diastolic pressure was really more valuable. Dr. Oliver had mentioned one case where it formed a valuable adjunct to the systolic pressure. Personally he thought that none of the instruments could compare with Oliver's for recording the diastolic pressure. It gave a perfectly definite point where the throb was first heard, a point which probably corresponded with the lowest pressure at the end of the diastole. This interpretation was confirmed by the observation that half way between this point and the other where the sound disappeared was the point of maximum pulsation which should correspond with the mean arterial pressure. It had been claimed that the difference between the systolic and the diastolic pressures gave the strength of the ventricular beat, and no doubt other things remaining equal this did give a measure of the ventricular force. The strength of individual beats was not, however, a matter of moment; what they wanted to know was the total force of the heart—i.e., not only what was being expended, but also what was in reserve, and the best measure of this was what the patient could do in the way of exertion without discomfort. He could personally confirm what Dr. Leonard Hill had said about the marked difference of pressure in arm and leg in cases of aortic regurgitation. In a case under Dr. Rolleston's care, where he had had the opportunity to take comparative blood pressure readings, the difference was about 150 mm. of mercury.

Dr. W. BEZLY THORNE left out of consideration all the manometers applied to the wrist or finger on the ground of their inherent defects, and Pachon's oscillometer on account of its cumbersomeness. He favoured the aneroid, 4½ inches in diameter, introduced by Hill and Barnard, which he had employed for some 15 years, and at times connected by a two-way tube with a mercurial barometer for control purposes. He had under observation three cases of Raynaud's disease, in which the migration at balance point was under

2 mm. and the points of brachial and radial obliteration were identical; whereas a migration of 5 or 6 mm. in conjunction with high ranges of brachial and radial obliteration, occurring, as they invariably did, with a weak and dilated heart, were a positive danger signal. He then compared two cases in both of which the point of brachial obliteration was 240 mm. Hg, while the balance point in the one was 150 and 90 mm. in the other, and pointed out that in the one the energy of the systole and the recoil of the aorta were maintained during their due proportion of the cardiac cycle, while in the other the jerky and ill-sustained systole showed that the myocardium was drawing near to the end of its reserve. He added that the attempt to lower blood pressure apart from rehabilitation of the circulatory mechanism was fraught with danger, and that deductions from the data yielded by the manometer required more thoughtful care than those derived from any other appliance available to the clinician.

Dr. F. W. PRICE said that he would have preferred speaking on the subject of blood pressure a year or two hence, as he would have liked to confine his remarks to the result of investigations in which he was engaged. These investigations, however, were as yet not nearly completed. In his opinion there was a real danger of coming to unjustifiable conclusions from blood-pressure measurements as usually taken in the human subject. He suggested that it was probable that a good deal of what was commonly believed by clinicians in regard to blood-pressure measurements in man did not rest upon absolutely trustworthy or proved data, and therefore was not warranted. Many more series of investigations, conducted at the bedside, according to the methods of exact analysis were necessary. He would group his remarks under two headings: First, mere beliefs or impressions which he had gathered from his experience in a general way; and, secondly, some results of his investigations at the Mount Vernon Hospital for Diseases of the Chest during the last two or three years. The sphygmomanometer which he always employed was Martin's modification of the Riva Rocci. He was very sceptical of the value of the readings of the diastolic pressure. The reason why he could not see how what is called "diastolic pressure" could have any true meaning was that the pressure during diastole was a continuously falling one. It was impossible to take it at any particular time during that fall. Therefore the interpretation of diastolic pressure from the oscillation of the mercury, or from the cessation of the sound in the artery, was purely arbitrary and not based upon any trustworthy data. Consequently his practice was to take the systolic pressure only. He had confined his observations to patients either with a regular heart action, or with only an occasional irregularity—that is, where there were periods of regularity of sufficient length during which to take measurements. It seemed to him that in hearts with a completely irregular rhythm—in other words, in cases of auricular fibrillation—where there was a constant variation in the strength of the pulse-beats, the pressure in the air-bag would obliterate some of the beats and might not obliterate some other beats, and as the beats came through in an irregular fashion, it was impossible to get a figure that actually represented the condition. He thought the normal blood pressure had a wider range of variation in different individuals than they were apt to believe. Therefore they should be very cautious in arriving at the conclusion that a blood pressure outside what was supposed to be the normal limits necessarily indicated a diseased state. Some people were perfectly healthy with a pulse of 60 and others with a pulse of 80. It seemed to him that the same principle held good in regard to the blood pressure. If that were so, it was important that they should make inquiries in regard to two points: (1) What was the patient's usual blood pressure previously? and (2) Were there any symptoms or physical signs other than a supposed abnormal blood pressure, such as headache, shortness of breath, or other indications of cardiac failure or of renal disease? In other words, they should be careful not to draw hard-and-fast conclusions from blood pressure readings alone. In some people, though not in many, he had found considerable fluctuations in the blood pressure from day to day. He was not referring to the variations associated with meals, physical exertion, or mental states, but to diurnal variations which appeared to be quite independent of those. With regard to drugs, although it might be proved that a particular drug had a certain action on a healthy animal, it did not necessarily follow that it had the same action on a diseased human being. It was practically universally believed that digitalis raised blood pressure by causing arterial constriction. Therefore, in practice the custom was either to avoid the drug altogether or only to give it with great caution in cases of supernormal blood pressure. As far as he had been able to ascertain this belief rested upon experiments on animals, with the exception of Sir Lauder Brunton's observations upon himself with the sphygmograph, and not with the sphygmomanometer. For the last three years he had been associated with Professor A. R. Cushny and Dr. James Mackenzie in conducting at the Mount Vernon Hospital a series of investigations dealing in detail with the action of digitalis on the cardio-vascular system in man. The accuracy of their blood-pressure observations was repeatedly tested by the employment of the polygraph and of Korothloff's auscultatory method instead of the finger. Measurements were taken in 16 cases with a regular heart action, as a rule in each case over a prolonged period. The cases were: 7 cases of mitral disease, 8 cases of mitral and aortic disease, and 1 case of cardio-sclerosis and arterio-sclerosis, with a supernormal blood pressure. Even although the drug was pushed and caused vomiting and heart irregularities, an appreciable rise of blood pressure was observed in only one case—namely, in a case of aortic disease and mitral incompetence in which a rise of blood pressure equal to about 20 mm. of mercury, with no increase in the pulse-rate, occurred during the administration of the drug. If their earlier results were corroborated it would appear that the fear of administering digitalis in cases of supernormal blood pressure was unfounded.

Dr. O. K WILLIAMSON said it was necessary clearly to bear in mind what it was that the manometer reading really indicated by the method of circular compression (that usually used). Dr. William Russell had taught for many years past, and Dr. George Oliver had also adduced reasons in favour of the fact, that besides the pressure of the blood within the vessel at the site of compression the reading was largely influenced by the resistance of the vessel wall. A few years ago at a meeting of the Royal Society of Medicine he (Dr. Williamson) furnished clinical proof that this was the case. The next question which presented itself was this: Was this heightening of the manometer reading owing to resistance of the arterial wall due to permanent structural change in the wall of the vessel or to spasm of the muscular coat? It was perhaps generally believed that it was mainly due to the former, but there was no doubt that spasm of the muscular coat was the all-important factor. The instrument could not enable them to say what proportion of the reading was due to blood pressure and how much to arterial resistance, and it was only by the use of the trained finger in addition to the sphygmomanometer that it was possible to arrive at an approximate estimate of the relative values of these two factors. To illustrate the importance of this point in every-day practice he would take the case of a patient who had had such cerebral symptoms with perhaps hemiparesis as often precede an actual hemiplegia. If the manometer reading should be high the medical attendant would, if he regarded the reading as one of mere pressure, exhibit active hypotensive medication. Nevertheless, the element of arterial resistance frequently loomed large in such a case, and this was the factor which caused the reading to be high, whilst the actual blood pressure was not above normal—in fact, what was to be feared was not a cerebral hæmorrhage but occlusion from thrombosis of a branch of the middle cerebral artery; and therefore stimulant treatment was urgently needed. Here was a typical instance of the way in which recognition of the factor of arterial resistance would make all the difference between successful treatment and disastrous failure, and it was scarcely too much to say that the use of the sphygmomanometer to him who did not recognise this factor was not merely futile but a positive source of danger. Perhaps the most accurate way of reading the diastolic pressure was by the auditory method introduced into this country by Dr. Oliver. In private practice the armlet method was unsatisfactory, and he had found that Dr. Leonard Hill's small wrist-bag used with a portable aneroid manometer was far more convenient and less disturbing to the patient.

After Dr. H. J. JOHNSTON-LAVIS (Vittel) and Dr. HAROLD DES VŒUX had spoken, Dr. HALL briefly replied.

OPHTHALMOLOGICAL SOCIETY.

Melanotic Sarcoma of the Choroid with General Metastasis.—New Operation for Squint.—Security of Sutures for Squint Operations.—Disease of the Pituitary Body without Acromegaly.—Fusion Pictures.—New Method of Cataract Extraction.

THE May ordinary meeting of this society was held in the theatre of the Royal Dublin Society on May 11th, Mr. J. B. LAWFORD, the President, being in the chair.

Dr. H. A. LEDIARD read a paper entitled "Melanotic Sarcoma of the Choroid with General Metastasis." It was a case in which metastases were seen in the liver and intestine, occurring in a woman aged 55, who came under treatment in the Cumberland Infirmary with symptoms of gall-stone. During operation it was seen that the liver was diseased, and on incision a black tumour was discovered. Three years previously the patient had had the left eye removed in the Manchester Royal Eye Infirmary, on account of intraocular growth, correctly diagnosed. Vision had been failing for two years, and when the eye was removed there were pain, blindness, cataract, increased tension, and shallow anterior chamber. The secondary growth in the liver showed masses of spindle-celled sarcoma, parts of which were pigmented, and others free from granules of melanin. There was also an invasion of the mucous layer of the intestine by pigment bearing sarcomatous cells lying between the gland follicles. The chief tumour within the liver was as large as a small-sized orange and absolutely black. The gall-stone removed was a single large one weighing 139 grains when dry, and measuring 1½ in. by 1 in.—Mr. W. H. H. JESSOP asked whether members really thought there was such a thing as a leucosarcoma; he had always been able to detect pigment microscopically in every choroidal sarcoma, no matter how white they appeared to be.—Dr. W. B. INGLIS POLLOCK and Mr. C. DEVEREUX MARSHALL said that they had never seen a true leucosarcoma; a certain amount of pigment was always present.—Mr. ARNOLD LAWSON expressed the belief that sarcoma of the choroid was really not a very malignant disease, and that many cases were cured if the eye was removed early enough.—Sir HENRY R SWANZY agreed with Mr. Lawson.—Mr. D. A. HILL GRIFFITH said that of the cases he had reported about 50 per cent. were well three years after the primary growth was removed, and he doubted whether removal of the eye made much difference to the possibility of general metastasis. Some cases removed in quite an early stage proved generally very malignant, while others remained for years and produced no metastasis at all.—Mr. W. T. HOLMES SPICER mentioned the case of a patient whose eye he removed in 1898 and who still showed no further signs of the disease. He also mentioned another case where the patient refused treatment ten years ago, and he was still well.—Mr. G. A. BERRY doubted if a growth which appeared ten years after removal of an eye for melanotic sarcoma was really a metastasis at all. He believed that leucosarcoma did occur, and the sooner all these cases were operated upon the better was the chance of life.—Mr. N. BISHOP HARMAN thought that the younger the patient was the more malignant was the growth.

Mr. BISHOP HARMAN read a paper entitled "A New Operation for Squint—Conjunctival Reefing and Advancement." He said that despite a growing condemnation of tenotomy the operation still lived in out-patient practice because of its facility. To secure reasonable prospects of success with the operation of advancement, with or without tenectomy, the patient had to be put to bed with both eyes bandaged. His aim in devising this new operation of reefing-advancement was to avoid these difficulties. He believed that he had succeeded in this. The operation he described was comparatively easy to perform and expeditious. Of the 34 patients he had operated on only one had been kept in bed, all the others had been outdoor patients with only the one eye bandaged. The results up to date were distinctly gratifying, both to patient and surgeon. Briefly, the operation consisted in exposing the edges of the tendon to be shortened, then with special forceps folding or reefing the tendon, very much in the same fashion that the laundry-maid treated linen frills in the process of goffering. The operation could be varied according to the degree of squint: (1) the extent of the reefing or shortening of the tendon could be varied by the adjustment of the reefing forceps; and (2) in high degrees of squint the sutures used to secure the reef were carried forward so as to advance the reef. The steps of the operation (say for convergent squint) were: 1. Securing the eye by the insertion of an anchor stitch at the limbus; this avoided fixation forceps, and the stitch was used to fix the eye in abduction at the end of the operation. 2. Locating the tendon. It was pointed out that there were distinct colour differences in the conjunctiva, according as tendon or Tenon's capsule was beneath it. These differences were marked in the young. 3. Two button-holes were cut through conjunctiva right to the sclera above and below and parallel to the edges of the tendon between the insertion and the canthus. 4. The surfaces of the tendon were rasped with a squint hook, the edges of which had teeth. This stimulated the production of adhesions when this part of the tendon was folded. 5. The reefing forceps were applied to the tendon. The forceps were like squint hooks whose short flat handles fitted together and were adjustable, so that the hooks coincided or separated by varying widths. Working from the outer canthus one blade was slipped beneath the tendon, and the other blade above the tendon and under the conjunctiva. When the forceps were turned from the outer canthus to lie across the nose the tendon was folded over or reefed. 6. The base of the reef was then fixed by appropriate sutures. If the squint was of low degree the operation was then finished. If it was of high degree the sutures were carried forward and fixed into the sclera at the limbus, so that tying the sutures advanced the reef and further abducted the eye. 7. Finally, the eye was completely abducted by means of the anchor stitch; this was fixed to the skin of the canthus with strapping. By this means relaxation of the antagonist of the operated muscle was produced, and it protected the reef from too early strain. The eye was bandaged, the spectacles worn with a blinker beside and half covering the open eye, so as to cause the patient to look towards the operated muscle. The anchor stitch was removed the third day and the reefing stitches on the tenth day.

Mr. BISHOP HARMAN also gave an account of "Some Experiments to Ascertain the Security of Sutures for Squint Operations." He said that in squint operations four modes of placing the scleral sutures were possible. The part that traversed and gripped the sclera might be placed (1) in line with the axis of the tendon and at right angles to the limbus; (2) across the axis of the tendon or parallel to the limbus. Further, each of these sutures might be made with a single or a double thread. To find out which of these possible modes gave the greatest security Mr. Harman had made experiments with artificial materials and their tearing strain under weights. The conclusion was that a double silk thread placed in the sclera across the axis of the tendon, and therefore transversely to the strain of the suture, had a carrying power from 12 to 18 per cent. greater than the other three modes. He had found these experimental data confirmed in practice. For that reason he inserted his stitches, as above described, in advancement operations.

Dr. LOUIS WERNER read a paper on Disease of the Pituitary Body without Acromegaly. He gave a short history of the discovery of the disease, and described what had been ascertained by experimental evidence and clinical facts. He discussed the course and symptoms, and gave the views of various observers. A series of photographs were shown on the screen depicting animals and X ray photographs of patients suffering from the disease, as well as micro-photographs of the pituitary body in health and disease.

Mr. H. H. B. CUNNINGHAM read a paper on Fusion Pictures. He emphasised the importance of training the fusion sense in young children, but thought that stereoscopes, &c., were too complicated and too expensive for general use. He had devised a series of pictures drawn in two colours, which could be seen through a coloured screen. One part of the picture could be seen with one eye and one with the other. Those for very young children were of a very elementary character, but for older children they were rather more elaborate. In this manner, as in the case of an ordinary stereoscope, binocular vision could be developed and educated.

Mr. J. STROUD HOSFORD, in describing a New Method

of Extraction of Cataract in the Capsule, said that the operation of cataract extraction was justly looked upon as a major operation, and the premier operation in ophthalmic surgery. Very serious dangers could be avoided if removal of the lens in its capsule could be done with safety. During the present year he had performed nine cataract extractions by a new method, which consisted of entering a discission needle into the lens and then rotating the lens on an antero-posterior axis. This caused the zonule of Zinn to be torn, after which the lens, in its capsule, could be removed without the loss of vitreous. The lens could be thus rotated either before or after the making of the section. If this method were adopted incomplete lenses could be removed, and it had all the advantages of Smith's operation, besides being safer and not so complicated.

UNITED SERVICES MEDICAL SOCIETY.—A meeting of this society was held at the Royal Army Medical College on May 8th, Major E. B. Waggett, R.A.M.C. (T.), the President, being in the chair.—Lieutenant-Colonel J. F. Donegan, R.A.M.C., gave a demonstration of his Operating Table for use in the Field. The table is made of aluminium and tubing; it is 4 lb. lighter than the present pattern, and is so designed that all the requisites for an operation are contained in the table itself. There is provision for heating the table when necessary, and all the usual positions can be arranged for.—Major F. E. Fremantle, R.A.M.C. (T.), read a paper on the Sanitary Service of the Territorial Force. He pointed out that the regimental medical officer of the Territorial Force was not a trained sanitary officer, as in the line; consequently there was much greater need for the activities of divisional sanitary officers and of sanitary companies. The efficiency of the regimental medical officers might be much increased by their being allotted definite sanitary duties while in camp and by the issue of a small manual of instruction for their special use. The unattractive nature of the duties of regimental sanitary squads made it very difficult to obtain recruits for these posts, and he suggested that it was only possible to secure men for the sanitary squads by offering special inducements in the way of extra pay and quicker promotion. The water duty men had no functions in a camp in peace time and were not likely to be needed in war time in this country, where water-supplies were usually good and only needed proper protection from pollution by ordinary military measures. He thought that each division should have a sanitary company under the divisional sanitary officer, who should preferably be a county medical officer of health in the area from which the division was drawn. Every effort should be made to keep in close touch with the civil sanitary authorities, so as to get the advantage of their local knowledge.—Major P. Caldwell Smith, R.A.M.C. (T.), read a paper on the Duties of Sanitary Companies of the Territorial Force. After describing their organisation, he urged that the number of non-commissioned officers should be increased so as to allow of the company being split up into eight sections for the purposes of their duties in the various parts of the area under their charge. The non-commissioned officers should be recruited from among civilian sanitary inspectors. He then proceeded to describe the methods of instruction adopted in his company. Great stress was laid on lectures and practical demonstrations in care of water, infectious diseases and their prevention, camp conservancy, and the inspection of food. He thought it was probable that on mobilisation the Territorial Force would establish large concentration camps, and that the sanitary companies would find their chief functions in the sanitary care of such camps. He recommended that a distinction should be made in the uniform of the men of the sanitary companies so as to prevent their being taken away from their proper duties.—The President, Brigade-Surgeon J. F. Beattie, A.M.S. (retired), Colonel J. Harper, R.A.M.C. (T.), and Lieutenant-Colonel B. M. Skinner, M.V.O., R.A.M.C., took part in the discussion.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—The final meeting of the session of this society was held at the Queen's-road Dispensary on May 8th, Mr. T. H. Ionides, the President, being in the chair.—The following were among the cases and specimens exhibited:—Dr. L. A. Parry: A boy with a Fracture of the Lower End of the Humerus, which he had wired on account of the difficulty of getting the broken ends in accurate apposition by the usual method of treatment—i.e., fixation in the fully flexed position. There had been some musculo-spiral paralysis after the operation, but this had now cleared up, and the result was quite good, the boy having almost perfect movements in all directions.—Dr. C. F. Bailey: A woman aged 30, who was probably an early case of Disseminated Sclerosis. She had nystagmus, tremors, and left lingual paralysis.—Dr. Walter Broadbent: 1. A case of Morbus Cœruleus in an undersized boy aged 12. He had a blue appearance, very marked on exertion, and his finger-ends were much clubbed. There was hypertrophy of the heart, mainly of the right ventricle. On auscultation there was a loud, rough systolic murmur in the third left space. The condition was probably pulmonary stenosis with patent foramen ovale. 2. The Heart and Brain of a girl aged 12, who during an attack of acute endocarditis developed a right hemiplegia from embolism, and some weeks later suddenly became comatose. There was retraction of the head, conjugate deviation of the head and eyes to the right, and loss of knee-jerks. Post mortem was found a large subarachnoid hæmorrhage on the under surface of the medulla, pons, and crura. The lateral ventricles also contained blood, the left more than the right. In the heart only the mitral valve was affected and about a square inch of the auricular wall above the valves.—A discussion, adjourned from the last meeting, took place on the Therapeutics of Vaccines.—Dr. Broadbent read a paper on Influenza.

Reviews and Notices of Books.

Modern Theories of Diet; and their Bearing upon Practical Dietetics. By ALEXANDER BRYCE, M.D. Glasg., D.P.H. Camb. London: Edward Arnold. 1912. Pp. 368. Price 7*s.* 6*d.* net.

THIS is a valuable volume for general practitioners, for in these days there are so many devotees of diverse cults in diet that it is essential to the physician to have his ideas on the subject as far as possible formulated and arranged. The views expressed are distinguished by a sober impartiality, which almost errs at times by being too impartial. Two introductory chapters on modern theories of metabolism have been revised by Professor Fraser Harris, of Halifax, N.S., and give an admirable survey of such speculations as those of Pflüger, Voit, and Folin.

Vegetarianism in theory and practice is considered from all the standpoints usually occupied by its advocates—the "humanitarian" point of view, Major McCay's investigations into the physical capacity of the natives of Lower Bengal, and the Irving Fisher experiments at Yale are passed under review, as well as a large number of allegations constantly made by vegetarians, such as the influence of flesh food in the production of cancer. In the preparation of this difficult *résumé* Dr. Bryce, who was himself at one time a resident at Battle Creek, has had the advantage of criticism and assistance from Dr. J. H. Kellog, the head of the largest vegetarian establishment in the world. The chapter is useful and interesting, but the conclusion to which the author arrives is that "the only infallible argument in favour of vegetarianism to-day that has the slightest value for the individual is the personal one to which there is no answer." A well-balanced section on low-protein theory and practice introduces Professor Chittenden's admirably work, coupled with Fletcher's well-known experiments, and a further and fuller commentary on McCay's inter-racial observations on food. In his account of purin-free diet Dr. Bryce does not spare the dogmata of Dr. Haig, and he furnishes a valuable epitome of the points of variance between this writer and Professor Folin.

The subject of excess-feeding is introduced under the name "hyper-pyræmia," applied to it by Dr. Francis Hare, whose two valuable volumes are well criticised and carefully compared with the "Salisbury treatment"; and the chapter

concludes with a very good account of "acidosis." It might be remarked in passing that the bibliography of this important condition might with advantage have been extended as the material dealing with it is very scattered. In other respects the bibliography of this volume is carefully arranged and sufficient. Isolated papers and complete treatises are grouped separately and placed under different heads for each chapter. Ample space is given to the consideration of theories attached to the use and disuse of mineral salts, and in the discussion on the dietetic value of water all the various forms of "thirst cures," especially the Schroth and Cantani methods, are reviewed at some length. Dr. Bryce has wisely not wasted too much space over such extremes of diet as raw food, "no breakfast plans," and "fasting cures," but they all receive a temperate and sufficient criticism. The only common factor in all these systems or practices is moderation, and that is the conclusion of the whole matter.

The author's style is fluent, concise, and dignified, and he is to be congratulated on a volume alike useful and readable. Is there any authority for the statement that the rations of Cæsar's legions consisted of maize? It is doubtful if maize was known in Europe at that time, and ζεία (zea), which has been adopted as the Greek for maize, was certainly "triticum spelta," the coarse wheat, which was the usual food of the legionary.

Abhandlungen aus dem Gebiete der Geburtshilfe und Gynäkologie aus der Zweiten Frauenklinik der Königlichen Universität zu Budapest. Von Prof. Dr. W. TAUFFER, Direktor der Klinik. Band II., Heft 1. Berlin: S. Karger. 1912. Pp. 199. Price 4 marks.

THIS volume contains a number of interesting and valuable articles and is evidence of the good work done in this clinic.

Dr. Josef Frigyesi writes on the treatment of placenta prævia. He points out the danger of the tampon when it is not used with strict aseptic precautions, and recommends as the most trustworthy method for this purpose the use of the colpeurynter, which is particularly valuable when labour has not begun. In cases of partial placenta prævia, where labour has set in and the pains are good, artificial rupture of the membranes is often sufficient. In more severe cases where rupture of the membranes is not sufficient combined version or a hydrostatic dilator introduced into the amniotic cavity should be employed. For the general practitioner he is inclined to prefer the former. As the use of the hydrostatic bag lessens the danger for the child without increasing that for the mother, he recommends it in suitable conditions, such as obtain in a lying-in hospital. The mortality of placenta prævia totalis in the author's experience is seven times greater than that of any other variety. Momburg's method of compression is of considerable value in the treatment of hæmorrhage during the third stage of labour, but the best method of dealing with severe bleeding in these cases is plugging the genital tract. He is not in favour of the performance of surgical procedures in the treatment of ordinary cases of placenta prævia; but in suitable surroundings—e.g., in a lying-in hospital, where the patient is certainly not infected, labour has not begun, and the child is alive and viable—Cæsarean section might be performed. In the case of a patient suffering from a severe loss of blood in such conditions this operation may be less dangerous than an attempt to deliver by the natural passages.

In considering the treatment of the pyelitis of pregnancy Dr. Mansfeld strongly recommends emptying the uterus in these cases. He is also in favour of catheterisation of the kidneys when the symptoms do not yield to ordinary treatment.

Dr. Elemer Scipiades contributes an article on the preparation of the abdominal wall before gynæcological operations, and reports very favourably on the use of a 50 per cent. solution of acetone and alcohol, followed by the application of tincture of iodine. He considers that this is a safe and trustworthy method of sterilisation of the skin, and that it produces this result with the least disturbance to the patient and with better results than any of the older methods of disinfection. He also contributes an important paper on the influence of fibro-myomata on sterility and fertility, and comes to the conclusion that these tumours undoubtedly predispose to both conditions, and that this is so not only at the time when they are producing symptoms, but even before. According to his figures, about one-third of women with fibro-myomata who might have become pregnant remain sterile and another third are relatively sterile, so that the fertility of the whole number is only half the average fertility of healthy women. He also maintains that these tumours are more likely to develop in sterile or relatively sterile women, a conclusion in accordance with that of most writers on the subject. In view of the fact, however, that sterility usually precedes by many years the period at which fibroids generally appear or cause any symptoms, many writers are accustomed to regard these tumours as rather the result than the cause of sterility. Other interesting papers are one by Dr. Frigyesi on the use of Momburg's method, and an account of a case of inversion of the uterus combined with hypoplasia of the adrenals by Dr. Mansfeld.

Grundzüge der Hygiene, unter Berücksichtigung der Gesetzgebung des Deutschen Reichs und Oesterreichs. By Dr. W. PRAUSNITZ, Professor of Hygiene, and Principal of the Hygienic Institute, in the University of Graz. Ninth edition, revised and extended under the joint editorship of Professor PRAUSNITZ and Professor P. TH. MÜLLER. Munich: J. F. Lehmann. 1912. Pp. 662, with 278 illustrations. Price in paper boards, 9 marks; bound, 10 marks.

THIS work, which for some years has been well known in Germany and Austria, has now reached its ninth edition. It was written in the first instance for the assistance of students at the universities and technical institutes, as well as for the use of medical practitioners, architects, engineers, sanitary officers, and others interested in the subject of hygiene. The previous edition had been exhausted for some time, but owing to the many pressing demands upon Professor Prausnitz's time he had found himself unable to undertake the labour of preparing a new edition which should bring the information up to date. Fortunately, it became possible to secure the services of Professor Müller to share with Professor Prausnitz the arduous work of revision, and the ninth edition is the result. Many of the chapters have been entirely rewritten, and to most of the remainder additions of large or small extent have been made.

A special feature of the volume is the insertion in the text of instructive illustrations; and in the present edition the number of these has been increased, some of the older ones having been omitted and replaced by fresh drawings. The chief aim of the editors has been to include in the book the whole field of scientific and practical hygiene, and to present this in as brief and as concise a manner as possible. The most important laws and ordinances relating to public health in Germany and Austria are shortly summarised.

In the general introduction the etymology of the word "hygiene" is first of all discussed, and a brief sketch of the development of public sanitation is given. The organisation of the public health services in the German Empire, the Kingdom of Prussia and in Austria is then considered, after which the question of international sanitary organisation is treated in a succinct manner. Chapters are devoted to the consideration of micro-organisms, air, clothing, bathing, soil, water, dwellings, heating, lighting, and

ventilation. In a chapter on refuse, not only the ordinary household refuse, slop water, and excreta of man and animals are included, but also trade effluents from works and factories, discharges from slaughter-houses, surface water from roofs and yards, and the sweepings of the streets. The burial of the dead, hospitals, school hygiene, and food and drink are all dealt with in turn. Infectious diseases are next considered, along with their causes and prevention; besides the ordinary communicable diseases of temperate climes such maladies as malaria, plague, cholera, and leprosy are discussed. Industrial hygiene and the diseases incidental to occupations receive due attention. The volume concludes with a short new chapter on race hygiene, in which the principal problems needing serious consideration are indicated, including alcoholism, syphilis, the limitation of families, the need for encouraging reproduction in sound individuals, and the strengthening and maintaining of a healthy peasantry as well as a strong and sound industrial population in the towns.

The ninth edition well upholds the previous reputation of this useful handbook.

Praktische Anleitung zur Syphilisdiagnose auf biologischem Wege. Von P. MULZER, Assistenzarzt der Universitäts-klinik für Haut und Geschlechtskrankheiten zu Strassburg i. E. Zweite Auflage mit 20 Abbildungen und 4 Tafeln. Leipzig: Julius Springer. 1912. Pp. 129. Price 4 80 marks.

THE recent advances in the treatment of syphilis are hardly more important and remarkable than the advances which have been made within the last few years in the diagnosis of the disease. The discovery in 1905 of the spirochæta pallida by Schaudinn was the first step in the accurate diagnosis of syphilis, for it made it possible to express an absolutely certain opinion on the matter; and the test devised by Wassermann is but little less trustworthy. The work before us contains a detailed account of the methods of carrying out both these forms of investigation, and the fact that it has reached a second edition within two years shows that it has been appreciated. In the first half of the book a full account is given of the staining of the spirochæta, both in smears and in sections, and the mode of recognition of the living spirochæte is also described. Wassermann's test has undergone many modifications, and here we find a full account of the original method as well as of the chief variations that have been introduced. A copious bibliography contains references to some hundreds of papers.

The book is convenient, and for all those who are studying the tests for the presence of syphilis it supplies what is required.

MISCELLANEOUS VOLUMES.

WE have in hand a number of small volumes relating to Nursing, First Aid, and kindred subjects which may be grouped together here. Sir HENRY BURDETT's book, *How to Become a Nurse* (London: Scientific Press, Limited. Pp. 354. Price 2*s.* net), has now reached its eighth edition. Besides all the necessary information with regard to preparation for the nursing career, the book contains a chapter on the general work of training schools; a directory of institutions where complete or partial training may be obtained, including some Colonial, American, and foreign hospitals; and a list of provident funds, examining bodies, and associations for the benefit of nurses. There is also a chapter on the training of male nurses and one on training schools for attendants on the insane. The alphabetical directory contains a large amount of information as to staff, salaries, vacancies, age of candidates, and lectures in various hospitals, asylums, and similar institutions.——Not only nurses but others will find in the second edition of Mr. W. BERNARD SECRETAN'S *Elements of Anatomy and Physiology, especially Adapted for Nurses* (London: The Scientific Press, Limited. 1912. Pp. 73. Price 2*s.* net), the first edition of which was favourably reviewed in THE LANCET of March 11th, 1905, a concise and adequately illustrated handbook of so much of the structure and working of the human body as everyone should possess. Several alterations and additions have been made, and for the special benefit of nurses a new chapter on the generative organs has been added.——It is a little over a year since we commended the first edition of Dr. MILDRED BURGESS'S *Care of Infants and Young Children in Health* (London: H. K. Lewis. 1912. Pp. 82. Price 1*s.* net), and now we are glad to extend a welcome to a second edition. In the chapter on growth and development several important additions have been made on the nursery, the care of the ears, teething (with a diagram), and the causes of crying. Following, as it does, the syllabus of the London County Council's infant care course, this little book should have a wide sphere of usefulness.——A most important point in the care of the sick is cooking, and this subject is well dealt with in *Cooking for Invalids in Home and Hospital*, by FLORENCE B. JACK (London: T. C. and E. C. Jack. 1912. Pp. 192. Price 2*s.* net), which can be recommended as a practical and useful little handbook, not only for the household containing an invalid, but for all households of limited means. The recipes number 301 in all, including two or three pages about fomentations and poultices at the end of the book. At the end of each recipe is a statement of the length of time required for preparation and the probable cost of the dish in the quantities given. Under "Meat," instructions are given as to various ways of cooking. We have tested the book by thinking of things both up to date and of earlier times, and it has not proved wanting.——The fifty-seventh edition of *J. F. Sutherland's First Aid to the Injured and Sick*, edited by Dr. HALLIDAY SUTHERLAND (London: Houlston and Sons; Edinburgh: John Menzies and Co. Pp. 40. Price 3*d.*), has just been issued. It has been revised and enlarged by the late author and can be recommended as a convenient waistcoat pocket ambulance *vade mecum*.

We have received from the National Association for the Study and Education of Exceptional Children, whose headquarters are at Plainfield, New Jersey, U.S.A., a copy of the *Proceedings of the Second Annual Conference (1911) on the Problem of the Exceptional Child*. The topics treated of at the Conference were: (1) The Causes of Exceptional Development in Children; (2) Educational Needs for various Kinds of Exceptional Children; and (3) The Exceptional Child as a Social Problem. The association, while acknowledging the excellent work of those who study and try to train the sub-group of feeble-minded children, approaches its task from the opposite end—viz., by trying to save the potentially normal child from sliding downwards in the scale of development, on account of preventable handicaps. The volume contains a large number of papers, many of them of considerable interest, by persons, medical and otherwise, whose names are well known in relation to their subjects. An appendix contains a tentative classification of exceptional children, suggested by Dr. M. P. E. Groszmann. The volume can be obtained from the association, the price being $1.50 (6*s.*, with postage extra).

The points at which the medical man and the clergyman come into contact with regard to the sick are so many and various that the manner in which either performs his professional duties can never be a matter of entire indifference to the other. With the theological aspects of manuals for the visitation of the sick by the clergy the medical profession as such is not concerned; but it is a source of satisfaction to find the proper sphere of the medical man so carefully safeguarded against intrusion by the minister as it is

in the Rev. THEODORE JOHNSON'S little book, *The Visitation of the Sick: Some Practical Reflections for the Use of the Clergy and Others engaged in Parochial Visitation* (London: George Allen and Company, Limited, 1912. Pp. 134. Price 1*s.* 6*d.* net). "To volunteer medical advice, or to express an opinion on the case," says Mr. Johnson, "is no part of the pastor's duty. Should the doctor's orders be *No visitors* ..... these orders should be scrupulously respected by the clergyman until an opportunity arises to learn from the medical man himself his reasons for such seclusion of the patient." Precautions are urged against the carrying of infection. The chapter on visitation of the sick in hospitals and other public institutions contains sound reflections on the psychic condition of patients and on the necessity for due attention to the working regulations of the institution.

JOURNALS AND MAGAZINES.

Journal of Pathology and Bacteriology. (Official Organ of the Pathological Society of Great Britain and Ireland.) Vol. XVI., No. 4. Published from the Department of Pathology, University of Cambridge. Price 7*s.* 6*d.*; yearly subscription, £1 1*s.*—Professor Robert Muir and Dr. J. W. McNee, of Glasgow, writing on the Anæmia Produced by a Hæmolytic Serum, discuss the results produced in rabbits by the action of a hæmolytic serum obtained from a goat. The serum *in vivo* is a much more active hæmolytic agent than *in vitro*, but its activity varies with the dosage, site of injection, and susceptibility of the animal. The anæmia produced is of the megaloblastic type, with a raised colour index and no increase in blood volume. If not fatal, regeneration of the blood is very rapid. The anæmia is accompanied by marked erythroblastic reaction in the bone marrow in which all the members of the erythroblastic series take part. The destruction of the red cells is chiefly extracellular, and is accompanied by hæmoglobinæmia, hæmoglobinuria, and by the hæmosiderin reaction in the organs, which may occur within 24 hours. These latter phenomena are proportional rather to the rapidity than to the amount of the blood destruction. Dr. A. E. Boycott, of London, writing on the Size and Growth of the Blood in Rabbits, and using the washing-out method of estimating the local oxygen capacity and volume of the blood in 52 rabbits ranging in weight from 150 to 3500 grammes, concludes that small rabbits have, on the whole, a higher percentage of hæmoglobin, and, in proportion to their body weight, more hæmoglobin and more blood than larger rabbits. Male rabbits have more hæmoglobin per unit volume of blood than females, but this is the only clear and constant sexual difference. Professor Muir contributes a note on the Relationship between the Complements and Immune Bodies of Different Animals. He describes the phenomena observed when complements from different animals (rabbit, cat, goat, duck, and ox) are used with different immune bodies for the same (ox) corpuscles, and shows that, on the whole, mammalian complements are more effective than avian in complementing mammalian immune bodies and *vice versâ*, though slight zoological changes may be associated with the most marked differences in mode of action. Special complementophile groups do not appear to be present in immune bodies. The failure of complement to produce lysis of sensitised red cells may be due to its inability to combine or to non-sensitiveness of the red cells to its action. When lysis occurs the quantity of complement fixed may or may not be roughly proportional to the amount of immune body present. The results in a hæmolytic experiment depend chiefly on the complement and corpuscles used, but different immune bodies vary in their efficiency, even though it can be shown that they unite with the same receptors in the corpuscles. Dr. Ernest E. Glynn and Dr. G. Lissant Cox, of Liverpool, describe the Variations in the Inherent Phagocytic Power of Leucocytes from Donkeys Immunised against Anthrax. Using anthrax bacilli and staphylococcus albus, the authors have compared the phagocytic power of leucocytes from three donkeys immunised against anthrax with that of leucocytes from a normal donkey. They find that the staphylo-opsonic index was frequently above the normal. In two out of the three donkeys the cytophagic index—i.e., the ratio between the phagocytic power of their leucocytes and that of the leucocytes of the normal animal taken as unity—was lower for staphylococci than for anthrax bacilli. There is thus evidence, they maintain, of a specific preference for anthrax in these two animals. The third animal had possibly been over-dosed with anthrax in the process of immunisation. Vaccination of one of these two donkeys with living anthrax bacilli produced an immediate and marked fall followed by a rise in the anthrax cytophagic index. Objections and possible explanations are discussed, and the conclusion arrived at by the authors in a previous paper is confirmed, that apart from questions of specificity the inherent phagocytic power of leucocytes for staphylococci, as tested by Wright's method, varies in different healthy animals as it does in healthy men. Dr. Andrew Connal, of West Africa, gives an account of Auto-erythrophagocytosis in Protozoal Diseases. From the examination of the peripheral blood in cases of malaria, trypanosomiasis, and other protozoal diseases in man, and in cases of infection with trypanosomes, hæmogregarines, piroplasms, and filarial embryos in the lower animal in West Africa, the author shows that auto-erythrophagocytosis occurs in some cases of trypanosomiasis and of malaria, but is not an index of the severity of the infection in the latter disease, where it is influenced by the age of the patient, the duration of the illness, and the nature of the infection, being more marked in quartan and malignant tertian cases than in mild tertian cases. No adequate explanation is offered, but analogy suggests that an opsonin is present. Dr. G. W. Nicholson, of London, gives a description and drawings of a Small Carcinoma in Association with a Transplanted Sarcoma in a Rat. He discusses the problem of the origin of a small nodule of spheroidal-celled carcinoma of an epithelial type which arose during the transplantation of a rat sarcoma, and concludes that it arose from a minute piece of epithelium which had been carried in by the inoculating needle. Reference is made to the converse phenomenon, described by several observers, of the occurrence of a sarcoma during the propagation of a carcinoma. Mr. Walter Edmunds, of London, in a paper on Further Observations on the Thyroid Gland (VIII.), embodies the results of a number of experiments on cats and dogs. Large doses of calcium, given after total extirpation of the thyroid and parathyroids, will often postpone, for a long period, the death from tetany which otherwise almost always soon follows the operation. If the administration of calcium is stopped the animals die, even when pituitary extract is given. The results of the treatment of cats by calcium compare favourably with the treatment by milk from thyroidless goats. Dr. P. N. Cave, of Croydon, studies Some Properties of Hofmann's Bacillus and the Question of its Relationship to the Diphtheria Bacillus in several cases of diphtheria of varying severity, and concludes that B. diphtheriæ may be converted into B. Hofmann in the throat of the diphtheria patient, though he has failed to produce either this or the alternative conversion of B. Hofmann into B. diphtheriæ in culture experiments. In describing the clinical picture of infection with B. Hofmann, he notes that it is not accompanied by any of the complications or sequelæ of true diphtheria, and he concludes from a consideration of

the results of the examination of the throats of a number of school children who had been exposed to diphtheria infection, and whose history was subsequently traced, that B. Hofmann has some power of conferring immunity against B. diphtheriæ. Dr. Marc Armand Ruffer and Dr. Arnoldo Rietti, of Alexandria, Egypt, in a paper on Osseous Lesions in Ancient Egyptians, give the results of the examination of skeletons of Egyptians of a period more than 3000 years B.C. The chief lesions are those of chronic arthritis, the causation of which is discussed. Except in one very doubtful case, they find no evidence of tuberculosis, and the lesions of syphilis and rickets were completely absent. From an examination of the teeth belonging to the Greek period it is concluded that in Greek times the liability of particular teeth to disease was much as it is nowadays.

Jahreskurse für Aerztliche Fortbildung.—The subjects dealt with in the April number of this periodical are renal calculus, hæmaturia, the attitude of the general practitioner towards salvarsan, and the treatment of gonorrhœa. Professor Klemperer furnishes a concise account of our knowledge of the origin of uric acid, oxalate and phosphatic stones, and their treatment. For diagnosis he relies upon the skiagram, which is only misleading in about 3 per cent. of the cases where a shadow is visible (due to tuberculous pus, fæcal concretion, &c.), and upon the impression on a wax-tipped ureteric catheter. Hæmaturia and its causes are discussed by Professor Dr. Oberlaender and Dr. Fritz Böhme, who go carefully over the numerous morbid conditions which may be responsible and describe the appropriate treatment. The ground covered is more or less familiar, but the account is clear and modern. Professor Jadassohn prefers the intravenous injection of salvarsan as more constant in its effects and freer from the dangers of local necrosis. He starts with 0·05 grm. doses and increases, in men, up to larger doses by repeated injections at intervals if they are well borne; but various alternatives are discussed. He usually gives mercury as well, preferably by injection. In his opinion all patients with syphilis ought to be treated with salvarsan if mercury disagrees or fails to cure, or if the patient is pregnant, or in late congenital syphilis, or if tabes or general paralysis of the insane is threatening; he also urges that it should be given in primary cases to cut short the risk of infecting other persons. Dr. Konrad Siebert writes on the treatment of gonorrhœa. He gives a valuable table of some dozen silver compounds with their therapeutic concentration compared with the strength in which they kill gonococci in five minutes; by this test protargol, novargan, and largin fare the best, all being albuminous compounds of silver. He disapproves of the use of the older astringents, as leading to a deeper infection. Janet's lavage under pressure is favourably reported on. Internal remedies do not control the gonococci at all. For posterior urethritis the observations of Schindler on rabbits are described; he found that the instillation of atropine paralysed the wave-like contractions of the genito-urinary muscles and so would prevent carrying of the gonococci backwards. It has recently been shown that gonococci are present in gonorrhœal epididymitis, and small abscesses are not uncommon. The organisms may persist for years, and may reinfect the urethra. Vaccine-therapy is discussed, but not with much approval.

MATERNITY NURSING ASSOCIATION.—A meeting on behalf of this association was held on May 20th at 1, Great Stanhope-street, London, W., under the chairmanship of Viscountess Clifden. Among the speakers were Mr. F. E. Fremantle, county medical officer for Herts, and Miss Amy Hughes.

THE BOARD OF EDUCATION AND THE TEACHING OF PHYSIOLOGY AND HYGIENE.

ON May 16th a deputation from the Physiological Society of Great Britain and Ireland was received by the President of the Board of Education, Mr. J. A. PEASE, M.P. The deputation presented a Memorandum from the society on the effects produced on the teaching of physiology and hygiene by the issue by the Board of Education of Circular 776 relative to the examinations in science, especially those in physiology and hygiene. It was pointed out by Sir VICTOR HORSLEY that in Scotland it was fully understood how fundamentally essential was a knowledge of physics and chemistry to the teaching of all science. In the Memorandum it is stated that the society regards the implied abolition by the Board of the State examinations in the biological sciences as gravely affecting the national education in these subjects.

In respect of the two reasons assigned by Circular 776 for the proposed change of policy—viz., (1) lack of candidates, and (2) possibility of other provision—the society points out that there is no lack of candidates for the examinations in physiology and hygiene, the numbers for 1910 being for physiology 1890, and for hygiene 2373, while no alternative scheme is contained either in Circular 776 or in any other document issued subsequently by the Board of Education. On the contrary, the Board appears to have swept away the whole machinery on which the teachers of the country have hitherto relied for (1) a State standard of education in physiology and hygiene, and (2) a State recognition of attainment therein; so that confusion has been caused in the minds of teachers and authorities as to the steps to be taken by them and by their pupils. The society suggests that before altering the position of physiological hygiene as an essential part of national education the Board should take the opinion of physiologists experienced in the teaching and examination of the subject.

In the opinion of the society, Circular 776 removes from teachers and pupils that incentive to study which a State recognition by certificate affords, and by withdrawing central guidance and inspiration renders probable the giving of unprofitable, inaccurate, and trivial courses. The society urges that reform and development of the national teaching of science subjects, biological or otherwise, must coincide with a fundamental reorganisation of national education in elementary science—i.e., physics and chemistry.

It is the opinion of the society that, in dealing with the training of teachers in England and Wales, the scheme of science subjects, as laid down in the regulations of the Board, urgently requires revision and reform. In the opinion of the society every teacher entering a training college should have acquired beforehand the rudiments of physics and chemistry. The college training should include a course of practical physics and chemistry and elementary biological nature-study, concluding with a course of elementary physiology, and finally the principles of domestic hygiene and psychology. Only a teacher thus trained is able to impart to children a completely rational and reasoned knowledge of healthy living.

Mr. PEASE, in reply, dwelt on the number of subjects that the teachers had at present not merely to acquire a knowledge of, but also to learn how to teach. While the Board admitted that children should be taught the rules of healthy living and the principles underlying them, it could not see its way as yet to including the scientific study of hygiene among the compulsory subjects in all its training colleges. The statistics for 1911–12, he said, showed that out of about 2900 students some 2270 had been through a course of physics or chemistry, or both; for in 42 out of the 79 colleges 1529 students took both chemistry and physics, 429 took chemistry only, and 314 physics only. The Board, therefore, could not consent to withdraw or suspend the operation of Circular 776 until further information as to its effect was available.

THE LANCET.

LONDON: SATURDAY, MAY 25, 1912.

A New Logic.

LOGIC is defined by JOHN STUART MILL as the art of correct thinking and the science of the conditions of correct thinking, and we may accept this definition as at least expressing with sufficient accuracy the meaning which we attach to the word in ordinary speech. And as correct thinking is the instrument by which man has created those other arts and sciences that have given him his vast control over the forces of nature, it would seem only reasonable to suppose that the remarkable results which the human mind has achieved in these several directions should imply a corresponding development of this fundamental science of logic. So far, however, is this anticipation from being realised that the advancement of knowledge has coincided, not with an increasing cultivation, but with an increasing neglect of this study, so that to the modern investigator in any field of science it would appear little less than an extravagance were anyone to suggest that he should school his mind and guide his practice by the principles and methods which logicians expound in the classical text-books. That logic should have come to be regarded in this way is as regrettable as it is surprising; for, since correct thinking is by no means so easy and so natural a process that the mind can be safely trusted to perform it instinctively, it is obviously to be desired that the principles which govern such thinking, and the methods by which effect is given to these principles, should be definitely ascertained and clearly formulated—that they should, in short, be reduced to scientific system. This is what logic purports to do, but it does it, unfortunately, with so little success that in practice the scientific inquirer prefers as a rule to dispense altogether with its aid and to trust, *faute de mieux*, to the exertions of his own undisciplined thinking; in the problems with which he has to deal, even the methods that he works out, often in a rough and haphazard way according to the occasions of his argument, are, he feels, of more service to him than the rules of professional logic. How, then, is this attitude of mind to be explained, and if it finds its justification in the present state of logic, is there any remedy for what must be recognised as a real hindrance to the progress of science? These are the questions which Dr. MERCIER has set himself to answer in his "New Logic,[1]" and we may say at once that in the somewhat formidable task which he has undertaken he has achieved what even his most hostile critics may admit to be a very large measure of success.

Dr. MERCIER'S thesis is that traditional logic, the logic of the schools, is a survival of the Dark Ages, and that its whole system is insufficient, defective, and erroneous from beginning to end; its analysis of the proposition is faulty; its doctrines of quantity and quality are wrong; its doctrine of the syllogism is artificial and mistaken. Nor does the inductive school fare much better at his hands; by its partial acceptance of the deductive scheme of traditional logic it has run, he asserts, into the same errors, and it has further failed even to recognise the possibilities of development inherent in its own principle. Of course, in this destructive part of his task Dr. MERCIER adopts with entire frankness the position of the prosecuting counsel, and it is possible that this attitude may sometimes lead him to overstate his case and to leave out of account some extenuating circumstances that might be urged in favour of the professional logician. It is doubtless for this reason, and also, perhaps, from an instinctive feeling of pity for the unfortunate victims of Dr. MERCIER'S exquisite but merciless satire, that the reader is likely to find his interest more keenly and more pleasurably aroused by the constructive side of the author's thesis. For, as is implied in the title of the work, Dr. MERCIER'S aim is not merely to demolish the obsolete and futile system which usurps the name of logic; that is only a preliminary to his main task of setting up a new logic which shall supply the defects and correct the errors of the old. And the new logic which he propounds certainly does possess at all events a considerable share of the merits which its author claims for it. Obviously, in relation to such a subject as logic a writer cannot be expected to discover principles and methods that are entirely novel; the originality of his work, therefore, is not to be sought in the amount of absolutely new material which he brings to light, but in the capacity which he shows for arranging the old material in new and better ways. And Dr. MERCIER'S arrangement of logical methods, as compared with the arrangements of his predecessors, has great advantages. We may specially single out as instances of his manner at its best, his treatment of the distinction between deductive and inductive reasoning, between the *argumentum ex postulato* and the *argumentum in materia*. The separation of these two systems, though indicated by MILL, has certainly lacked adequate recognition in treatises of logic; and it is one of the distinctive merits of Dr. MERCIER'S work that he has made good this omission and has fully elaborated the differences in nature, scope, and object between the deductive process, concerned only with the inferences that can be drawn from postulated propositions irrespective of the truth or falsity of such propositions, and the inductive process which rests on the appeal to experience, and in which, consequently, the material truth of the propositions is vital. To these modes of reasoning Dr. MERCIER adds a third—the process of analogy in the Aristotelian sense of the comparison of ratios. These three methods, though in so far related that they spring from a common root in the fundamental process of comparison, are discussed as completely distinct and discriminable; they differ altogether in range and object, they are regulated by different canons, and they are vitiated by different fallacies. And it is one of the strongest points that can be made in support of Dr. MERCIER'S system that it provides a simple and complete scheme of classification in which

[1] A New Logic. By Charles Mercier, M.D. Lond. London: William Heinemann. 1912. Pp. 422. Price 10s. net.

these canons and the related fallacies fall into their places with an admirable appearance of naturalness. In reality, of course, we do not employ any one method of reasoning to the exclusion of the others; all, or nearly all, argument, on the contrary, involves the frequent alternation of the several processes; and it is just this association of the different methods in composite reasoning that makes the recognition of their distinctive uses and dangers so essential to clearness of thinking.

It is a recommendation of the soundness of Dr. MERCIER'S views that this most interesting volume bears very clearly the imprint of the author's professional habit of mind. For it is peculiarly fitting that a treatise on logic should be written by a physician. He, more than other men, must deal with concrete problems in which errors of reasoning may bring swift and disastrous results, and in such problems the rules of closet logicians will be of small help. On the other hand, these problems are too complex and too intricate to allow him to dispense with the aid of organised reasoning methods; he cannot therefore adopt the merely contemptuous attitude of the practical man who sees no need for anything more than the ready processes that his mother wit provides for the simpler issues of everyday life. And for the same reason, we may add, it is peculiarly fitting that Dr. MERCIER'S professional colleagues should study this work, and if they are not entirely satisfied as to the value of the logical methods which it inculcates they may be recommended, in conformity with the ancient rule, to try the virtue of these methods on the opinions and diagnoses from which they dissent. In saying this, however, we would not be understood to suggest that Dr. MERCIER'S work is narrow in its appeal. It is, on the contrary, as free from the pedantry of medicine as from the pedantry of academic logic, and it is written, moreover, with all that directness and lucidity of style which invariably distinguish Dr. MERCIER'S work, and which are seen to peculiar advantage in dealing with such a subject as logic. The author is to be congratulated on having produced a volume which, in addition to its other merits, has a quality that is quite exceptional in treatises of logic—the quality of being thoroughly interesting and even, if we may venture to use the word, thoroughly amusing.

Medicine and the Public.

THE Reports of the Poor-law Commission, together with legislative measures such as the Midwives Act and especially the National Insurance Act with all its ramifications which touch the community at every point and the medical profession more perhaps than any other portion of the populace, have given rise to much writing on the all-important question of the relations between the members of the medical profession and their fellow citizens. Some of this output has been of high literary quality, some has not; some of the statements have been accurate and some have been prejudiced. The most recently published work of this kind which has come before us, entitled "The Doctor and the People," belongs to the better category.[1]

In this book the author has given in a set of eminently readable essays much food for thought both to the lay and to the professional reader, and its digestion should promote a healthy feeling that all citizens, both those who want medical assistance and those who offer it, should have a common object. Mr. WOODCOCK writes with a first-hand knowledge of his subject, for as a general practitioner in a large manufacturing town and as a former Poor-law medical officer he has had varied experience of practice. And he preaches the doctrine which the medical profession in this country, ever since its organisation as a profession, has been preaching, and for the last 40 years with much clearness. This doctrine all Governments have acknowledged to be true, although no politician has yet arisen with enough grip of the situation to apply the doctrine to its fulness. It is the old doctrine of prevention instead of cure, a doctrine the truth of which the public is but slowly beginning to realise. To the public, even as yet to the more educated section thereof, a "doctor" is still a man who can give them something to remove pain or discomfort. They have for the most part no ideas on hygiene except as a routine to deal with ills which have become prominent, or on moderate living except as something to be practised before a physical breakdown occurs in themselves, or before they perpetuate evil in their progeny. The poor go the round of the hospitals and spend a large portion of a hardly earned wage upon quack medicines; the rich live in a world of amusement and stress, and when the season is over fly to correct their excesses at some home or Continental watering-place. The need for forethought, for self-denial before the actual necessity occurs, suggests itself to the public at neither end of the social scale.

Mr. WOODCOCK believes that the solution of all the varying problems affecting medical men in their relations with the public, and, as a natural corollary, of all the defaults in public medical service, is to be found in the establishment of a State Medical Service; but he is aware that such a service, run on the cheap as regards the workers and in an extravagant manner as regards the taxpayers, such as is the case at present with many State-paid services, could be no blessing to anyone, even if the desirability of a State Medical Service were conceded. "It is not," he says, "the cultured professional man now writing glibly on State-paid officialdom who will put our necks under the yoke; it will be our new masters. There is grave reason to fear that our conquerors, the people, prefer quacks to doctors; they are ready to believe without question those who say that a medicine or a treatment will do what in truth it cannot do. ..... What they want from us is often not in reality our best work and many of them do not want to pay for it." A State-paid official in a medical service of this kind, he says, "will end in poorer wages for harder work," and the warning is certainly a timely one. Up to now the tendency of the State has been to lay burden after burden upon the back of the medical profession, accompanied sometimes by a small remuneration, sometimes by none as under the Midwives Act, sometimes not only by none but with a penalty attached for non-performance, as under the Notification of Births Act. The motto of this valuable piece of legislation as far as the medical profession is concerned might well run—

> The Jew shall have all justice, soft—no haste,
> He shall have nothing but the penalty.

The future of the medical profession and of its relations to

[1] The Doctor and the People. By H. de Carle Woodcock. London: Methuen and Co., Limited. Pp. 312. Price 6s. net.

the body politic is at present obscure. What the National Insurance Act will bring forth no one knows for certain. But one thing is clear: no man of any profession can do good and responsible work unless he be properly remunerated for it. The present industrial unrest, in the places where it has undoubted justification, is due to the obvious fact that higher wages must be paid on account not only of harder work but of the increased cost of living. No calling has more responsible work than that of medicine, and Mr. WOODCOCK'S book deserves a wide circulation, because he brings these facts out with clearness and eloquence. A great deal of what he says is very obvious, and his information is not without gaps, but he has striven to deal with a difficult subject in a courageous manner.

The Care of the Feeble-minded.

THE debate last Friday in the House of Commons on the second reading of the Feeble-minded Control Bill introduced by Mr. STEWART, M.P., immediately preceded, as it was, by the introduction of a Government measure on the same subject, may be taken, we trust, to indicate that legislation to deal with this urgent problem of the mentally defective is not to be deferred any longer. It is now four years since the report of the Royal Commission on the Care and Control of the Feeble-minded placed before the public an authoritative statement of the gravity and extent of the danger to the community arising from the presence in its midst, neglected and unchecked, of this horde of the degenerate, and it is safe to affirm that what further evidence on the question has accumulated during these years has but added to the cogency of the Commissioners' arguments. As to the main facts of the problem, we may assume, therefore, that there is no dispute; and if we are to judge from the opinions expressed by speakers of all shades of political thought in the discussion of Mr. STEWART'S Bill, it would seem that there is also a virtual unanimity in the acceptance of the broad principles laid down in the report of the Royal Commission as the basis on which a solution of the problem ought to rest. At the present moment, then, the only questions at issue are concerned with the precise form in which these principles are to find expression in legislative enactment.

Of the concrete proposals which have been brought forward for dealing with the problem, the measure introduced last week by the Home Secretary under the title of the Mental Deficiency Bill is naturally that which is most likely to find its way to the Statute-book. This measure, whose general terms were considered in THE LANCET of March 16th, 1912, provides for the creation, as a department of the Home Office, of a special Board of Commissioners, not exceeding six in number, to be a central authority for the supervision, protection, and control of mentally defective persons, the several categories of such persons being defined in the Bill in the form suggested by the Royal College of Physicians and adopted by the Royal Commission on the Feeble-minded. The Commissioners are to coördinate and supervise the administration by local authorities of the powers and duties conferred on these authorities under the Bill; to certify, supervise, and inspect institutions and houses for defectives; to visit, either personally or by their inspectors, defectives in special institutions and certified houses or under guardianship, or (with a view to their certification) elsewhere; to provide and maintain institutions for defectives of criminal, dangerous, or violent propensities; and to administer grants made out of money provided by Parliament under the Bill. The local authorities are to be committees of the county and county borough councils, either committees already constituted for other purposes, or committees appointed *ad hoc*. The Bill makes it obligatory on the local authorities to deal with all the defective persons in their district coming under its provisions, and in discharging this obligation they are to receive financial assistance from the Treasury to the extent of from a half to two-thirds of the expenditure they incur. The amount named in the Bill for this purpose is £150,000—a sum which most certainly does not err on the side of excess. The defectives whom it is proposed to deal with under the Bill are those only who are not under proper care and control, regard being had from this point of view to the interest of the community and also to the well-being of the defective persons. It is specially provided that criminal defectives may be transferred from prisons, criminal lunatic asylums, reformatories and industrial schools, to institutions for the care of the feeble-minded, and similar provisions are made for dealing with defectives who have been committed to inebriate reformatories. Another clause of the Bill allows courts of justice, when criminal defectives are brought before them, to ignore the offence and to deal with the accused by sending them to appropriate institutions. A proposal which will meet with general approval is that which brings under the operation of the Bill children discharged at 16 years of age from the special schools for the defective, when, in the opinion of the local education authority, they need continued care. And it is probable that public opinion is also sufficiently educated to welcome those provisions of the Bill which have an avowedly eugenic aim, as, for instance, the clause which makes it a criminal misdemeanour to marry with a congenitally defective person. The inclusion of such a provision in a Government measure is a truly remarkable phenomenon, and one for which the zealous preachers of eugenic doctrines are certainly entitled to take a full meed of credit; the seed they have sown so perseveringly seems to have borne fruit on what is not usually regarded as very fertile soil.

The special authority which attaches to the Mental Deficiency Bill as a Government measure places it, of course, in a different category from the other legislative proposals bearing on this question which have been brought forward by private Members. These proposals, however, as reflecting the opinions of persons who have had practical experience of particular aspects of the problem, are of considerable interest, especially with reference to those points in which they differ from the Government Bill, and as to which they may, therefore, be in some sort regarded as implied criticisms of its provisions. The Bill introduced by Mr. STEWART, which has been prepared by a joint committee of the Eugenics Education Society and the National Association for the Care of the Feeble-minded, and the Mental Defect Bill promoted by the Charity Organisation Society, differ from one another in several details, but agree

in some points in which they are at variance with the Government Bill. One of the most important of these points is with regard to the central authority for the supervision of the feeble-minded, which in the Government measure is a special department of the Home Office, while in the other Bills this charge is entrusted to the Lunacy Commissioners. In this matter experienced opinion will probably lean to the view that the Government have adopted the better course. The carrying out of what must for some time be regarded as a tentative and experimental policy is likely to present much less difficulty to a department specially organised for the purpose than to a board already occupied to the full extent of its energy with other important duties, and possibly prone for that reason to apply in this added sphere of work its own traditions and routine without adequate consideration of their suitability. Moreover, the classes of the feeble-minded for whom institutional treatment is most urgently needed, and to whom it will, no doubt, be applied in the first instance—viz., the criminal defectives and inebriates—fall at present under the jurisdiction of the Home Office, so that the proposed changes in the treatment of these classes can be effected with a minimum of departmental friction and without loss of the guidance of valuable experience. The establishment of a single central authority, as was recommended by the Royal Commission, would, of course, be a better theoretical arrangement, but it can be more satisfactorily arrived at when the time is ripe by an amalgamation of the separate authorities, and the Bill does in fact contemplate for some future period such an amalgamation of the Lunacy Commissioners with the proposed Commissioners for the Feeble-minded. It is possible that a comparison of the Government proposals with those embodied in the unofficial measures would show some points of detail in regard to which some useful hints might be taken from the latter, and this will no doubt be duly considered when the Mental Deficiency Bill is discussed in committee. At any rate, the promoters of the Bill introduced by Mr. STEWART may claim to have rendered a very real service by accelerating the tardy progress of legislation with regard to this grave and urgent question. The debate of last week has made it abundantly clear that if the Government are in earnest they will experience no difficulty in passing the Mental Deficiency Bill into law.

ASYLUM WORKERS' ASSOCIATION.—The annual general meeting of this association was held on May 22nd, at the house of the Medical Society of London. The meeting was addressed by Sir William Collins, M.D. (the retiring President), Sir John Jardine (President-elect), and others. The annual report for 1911 shows a considerable accession during that year to the membership of the association, the number of life and of subscribing members in 1911 having reached 5860. On Dec. 31st, 1910, the aggregate credit balance stood at £121 16*s.* 9*d.*, and at the end of 1911 it had increased to £206 19*s.* The report also refers with regret to the resignation of Sir W. J. Collins, who since 1907 has acted as President of the association, and to the prospective retirement of Dr. G. E. Shuttleworth, who after 15 years of active service as secretary has decided that his private and professional duties do not leave sufficient time for the attention to the affairs of the association which hitherto he has felt it incumbent on him to give.

Annotations.

"Ne quid nimis."

THE PATHOLOGY OF ANAPHYLAXIS.

THE occurrence of a peculiar group of phenomena, collectively known as anaphylactic shock, after the injection into a living animal of a second dose of some foreign protein, is now well recognised, but the pathology of the condition is not fully understood. To explain the occurrence of death in anaphylaxis it has been variously suggested that the blood pressure falls to a point incompatible with life, that the nervous mechanism of respiration is paralysed, and that a tetanic spasm of the bronchial muscles is produced. Attempts to localise the formation of the toxic body or bodies concerned in some particular organ, such as the liver or the intestine, have also been made, but without much success. The difference in the phenomena seen in different kinds of animals causes additional difficulty in elucidating the true nature of the lesions produced. A very large amount of research has now been carried out in this field, and a useful summary of it is given in a recent publication by Schulz, who has himself taken part in these investigations. Working in conjunction with Jordan [1] he was led to adopt the explanation that death in anaphylactic animals is due to spasm of the muscle of the larger bronchi, with resulting asphyxia due to occlusion of their lumina by folding of the mucous membrane. In support of this view he has now [2] shown that the smooth muscular tissue throughout the body is rendered unduly sensitive in anaphylactic animals and therefore liable to spasm. A similar contraction of the walls of the large arteries may be the cause of the fall of blood pressure observed in the systemic vessels. The importance of this group of phenomena to those engaged in medical practice is now recognised to be considerable, as not only does a very similar train of occurrences take place in human beings who receive a second injection of diphtheria antitoxin or any other serum, but many obscure diseases may not improbably be found to have their origins in conditions of this nature. One such instance is seen in exophthalmic goitre, in which the organism may be unduly sensitive to thyroid secretion, while the eclampsia of pregnancy has been attributed to absorption of placental villi and consequent anaphylaxis. The phenomena of asthma again occur at once to the mind as closely similar to those seen in an anaphylactic guinea-pig. We must therefore recognise in this new development of pathology an example of the ultimate value which may attach to researches seemingly most remote from any practical application, and an encouragement to investigate every aspect of nature for its own sake apart from any immediate utilitarian aim.

THE OATMEAL CURE IN DIABETES.

IT is well known that a dietetic treatment of diabetes by means of oatmeal has been introduced by von Noorden as a result of the accidental discovery of the effects of oatmeal gruel in a diabetic, to whom it was given for some intestinal disturbance. An interesting review of the recent literature upon this so-called oatmeal cure is published in the *Interstate Medical Journal* of April by Dr. S. Strouse. He states that the one fact which stands out prominently from the literature is that oatmeal properly used will improve cases of diabetes which have resisted the ordinary dietetic and medicinal

[1] Journal of Pharmacology and Experimental Therapeutics, 1911, vol. II., p. 375.
[2] Public Health and Marine Hospital Service of the United States; Hygienic Laboratory Bulletin, No. 80; Washington, 1912.

measures. It appears to reduce the output of sugar, diminish the signs of acidosis, and prolong the life of the patient. Two of the most important points dealt with in Dr. Strouse's review are the selection of cases and the proper method of using the cure. It is apparently inadvisable to employ it in mild cases, which respond well to the ordinary dietetic restrictions. Such cases appear in some instances to have been harmed rather than benefited by it. The oatmeal cure seems to produce the most striking effects in those cases in which the ordinary limitations of carbohydrate intake either fail to cause the desired diminution of the sugar in the urine or tend to produce acidosis. The method of preparing the gruel is to add 250 or 300 grammes of washed butter to 250 grammes of cooked American oats, the two being thoroughly mixed while hot, and then divided into three or four portions, to be taken during the day. At each feed one or two eggs may be added to the gruel, but the general tendency now is to limit the day's food to the oats and butter. It is usual to allow as much water as the patient wants, and in Germany a little light wine is permitted. No other food is given on the oatmeal days, and the addition of meat or of other carbohydrates renders the treatment valueless. In order to prepare the patient it appears to be best to get him as nearly sugar-free as possible. The directions given by Falta, who has devoted special attention to the subject, are that after reducing the patient to as low a carbohydrate allowance as he can take without danger, he is given nothing but vegetables of low carbohydrate content for two days, then the gruel for three or four days, then two more days of vegetables, and, in some instances, another course of oatmeal. Von Noorden and others classify the cases treated in four groups according to the results obtained. The first comprises those who are not relieved by ordinary treatment, but in whom the oatmeal cure produces not only marked lowering of the acidosis but also an increased tolerance of sugar. In the second group the results are similar but temporary; in the third the glycosuria persists but the acidosis is diminished, and after the oatmeal days the patient has a more or less decided increase in his tolerance for carbohydrates. The fourth group, which according to most reports is a small one, is made up of cases showing no reaction to the treatment. In patients with diabetes on whom surgical procedures are necessary a course of oatmeal diet after the operation may prevent the onset of coma. The explanation of the beneficial effects of oatmeal in diabetes is still a matter of speculation. Various theories have been advanced by von Noorden, Naunyn, Falta, Lampé, Luethje, and Klotz, but none of them has yet brought forward convincing proofs in support. Dr. Strouse refers briefly to these theories and discusses them. His interesting review is a valuable summary of an important matter and is worthy of careful consideration.

ROYAL INSTITUTE OF PUBLIC HEALTH: THE BERLIN CONGRESS.

FROM Thursday, July 25th, to Sunday, July 28th, the Royal Institute of Public Health, of which His Majesty King George V. is patron, will hold a congress at Berlin. The preliminary programme, which has just been issued, affords some indication of the importance of the proceedings both from a scientific point of view and also from that of a common friendship between the two countries. Sir T. Vezey Strong is the chairman of the English Organisation Committee. The reception room and offices of the Congress will be in the Herren Haus (Imperial House of Lords), where the whole of the meetings in connexion with the Congress will also be held. The proceedings will be divided into five sections—namely, State Medicine (President, Sir T. Clifford Allbutt), Bacteriology and Comparative Pathology (President, Professor G. Sims Woodhead), Child-Study and School Hygiene (President, Sir James Crichton-Browne), Naval, Military, and Colonial (President, Major Sir Ronald Ross), and Municipal Engineering, Architecture, and Town Planning (President, Mr. P. C. Cowan, D.Sc., Chief Engineer of the Local Government Board). A number of prominent medical men have indicated their intention of reading papers or of taking part in the discussions. The President of the Congress is Earl Beauchamp. Very complete arrangements for travelling and hotel accommodation have been made; and opportunities will be given for visiting the various public health and educational institutions in Berlin in connexion with the Imperial Board of Health, the Imperial Board of Education, the Municipality, the University, and so forth. Full details can be obtained on application at the offices of the Royal Institute of Public Health, 37, Russell-square, London. The honorary secretary of the Berlin Organisation Committee is Oberstabsarzt Niehues, M.D., Medizinal Abteilung des Kriegsministerium, Wilhelmstrasse, 86-87, Berlin, W. 66.

EPIDEMIC DYSENTERY IN THE FIJI ISLANDS.

FOR some time past annual epidemics of dysentery have been occurring in the Fiji Islands, and the outbreak of 1910 having proved more extensive than any in recent years the London School of Tropical Medicine instructed Dr. P. H. Bahr, who was visiting the colony on other business, to make an investigation into circumstances associated with the prevalence of the disease. From Dr. Bahr's report, which has lately been published as Supplement No. 2 of the *Journal of the London School of Tropical Medicine*, we learn that although both the amœbic and the bacillary forms of dysentery are met with in Fiji, it is the latter variety which gives rise to the annual epidemics. These yearly outbreaks coincide with the hot season and the period of greatest rainfall, those conditions being accompanied by the appearance of enormous swarms of flies which Dr. Bahr regards as being intimately concerned in the spread of the disease. In the course of the inquiry organisms were isolated from human fæces, and from material in the post-mortem room, morphologically and culturally identical with Shiga's and Flexner's bacilli; other micro-organisms morphologically similar, but giving an atypical reaction with various sugars, were also found. Seven types of dysentery bacilli, according to their fermentative reactions, were isolated; but no special strains were shown to be peculiar to any distinctive clinical types of the disease, nor were any of them peculiar to a particular race. Clinically three types of the disease were recognised—the mild or catarrhal, the acute or ulcerative, and the toxic or fulminant. As regards treatment, the best results appear to have been obtained by intravenous injection of polyvalent anti-dysenteric serum. In the town of Suva, the capital of the colony, dysentery was found to be largely an institutional disease, the majority of the cases occurring in the two jails. The natives of Fiji are ill-adapted for agricultural pursuits, and consequently it has been found necessary to import large numbers of coolies from India, and in less amount from the Solomon Islands, to carry on the work in the numerous sugar, cocoanut, and banana plantations. Of 159 consecutive cases which were specially studied in detail by Dr. Bahr, 79 were Indians, 54 Fijians, 20 Solomon Islanders, 4 Europeans, and 2 half-castes. The Indians constitute the bulk of the criminal classes in Fiji, and many of them are expert malingerers. It is interesting to mention some instances in which these Indian prisoners tried to exploit the dysentery epidemic of 1910 for their own purposes, in order to obtain the coveted rest and idleness of the

hospital in place of the hard and irksome tasks of the prison. Some of them pricked their gums till they bled, and then spat out the blood into the pails into which their excrement had been passed, attempting in this way to imitate a bloody motion; in some cases sago or tapioca was added to the dejections to simulate mucus. One man was caught "red-handed" in the act of transferring from another man's pail to his own receptacle some of the blood and mucus which had been passed by a genuine sufferer. A few obtained, by surreptitious means from outside the prison, sodium sulphate, and as soon as they began to pass loose motions demanded to be sent to hospital as victims of the epidemic. Other prisoners having no available means at hand for "faking" their stools simply added water to them in the endeavour to imitate a liquid evacuation. It is believed locally that the infection of bacillary dysentery was brought to Fiji in the first instance by Indian coolies from Calcutta; probably there have been, from time to time, fresh importations of the infection from the same source. After its introduction into the colony the insanitary conditions existing in the various villages, plantations, and towns, afforded facilities favourable to the spread of the infection, diffusion taking place mainly by the agency of the common house-fly (Musca domestica), which, as has been mentioned already, swarms everywhere in enormous numbers, particularly during the hot and moist season. The pail system of excrement disposal in vogue in Fiji enables the flies to gain easy access to human filth; and when this ordure contains the specific bacilli of dysentery the organisms are carried away by the fly and deposited upon articles of food, which in turn are ingested by man and convey the infection to him. The presence of Shiga's bacilli in the intestinal canal of captured flies was satisfactorily demonstrated by Dr. Bahr. No evidence was forthcoming to incriminate any water-supply as a vehicle for transmitting the disease, though experiments showed that the specific microbes could survive for four weeks in distilled water and for six weeks in the tap water supplied to the town of Suva. The prophylaxis of bacillary dysentery in the Fiji Islands would appear to depend largely upon the carrying out of sanitary improvements and the removal of conditions which allow house-flies to breed to such an excessive extent. In Dr. Bahr's opinion, as soon as the house-flies in Fiji have been substantially reduced in number dysentery will decrease in amount and the annual epidemics will cease to appear.

PELLAGRAPHOBIA.

UNDER the heading of "Pellagraphobia" Professor M. Niles, of the Atlanta Medical School, Georgia, has written an article in the *Journal of the American Medical Association* of May 4th, in which he conveys to his medical brethren a word of caution, and deprecates any action which would be likely to increase the alarm which has been caused by the alleged spread of pellagra in the United States. He also urges the members of the profession to adopt a judicial attitude towards the etiology of the disease. At the present time when opposing parties, zeists and anti-zeists, are disputing about the origin of the malady, the health authorities as well as the general population in some localities are passing through an attack of pellagraphobia, mild in some cases but severe in others. While recognising the possible gravity of the situation Professor Niles warns medical men to refrain from doing or saying anything which would excite fear or anxiety in the minds of the laity, as this might lead to the development of a far more widely spread epidemic of the current pellagraphobia. Until the actual cause of the disease has been proved beyond all doubt there will be an element of uncertainty in the minds of timid folk, who will steadfastly refuse to run any risks and who will try to keep as far as possible on what they regard as the safe side. Professor Niles asserts that those who have studied pellagra are agreed that it is neither infectious nor contagious. In illustration of the effects which the present scare in the United States has produced in certain quarters, from which better things might have been expected, he mentions that some hospital authorities have recently refused to admit into their institutions for treatment persons suffering from pellagra, on the ground that it is an incurable disease. He also relates an instance in which a section of the nurses in a city hospital went on strike, aided and abetted by a house physician, because pellagra patients were being received into the wards, and the objectors were being called upon to assist in nursing them. A further case is given, in which a woman suffering from the mildest manifestations of pellagra who lived at a family hotel, was called upon at a moment's notice to remove to another residence, because the other guests, having some inkling of the nature of her ailment, threatened to leave in a body if the woman was permitted to remain in the hotel. We conclude that Professor Niles, who has, it may be mentioned, lately written a book on pellagra, has become a zeist, for he expresses the opinion that the disease is caused by a "toxichemical poison" generated in spoilt maize, which, when ingested by man, becomes active in his body. At present a number of investigations into the origin of this disease are being carried out in the United States as well as in Europe. In the circumstances we think that it is advisable, before coming to a conclusion as to its causation, to await the production of further evidence in one direction or the other. In any case, however, we agree with Professor Niles that it is very desirable to avoid exciting undue alarm in the public mind, and therefore exaggerations of any kind in discussing the disease should meanwhile be scrupulously eschewed.

ABDOMINAL PÉTRISSAGE AS AN AID TO THE DIAGNOSIS OF TAPEWORM.

IN the *New York Medical Journal* of May 4th Mr. R. J. Cyriax has described an aid to the diagnosis of tapeworm. In cases of difficulty in the diagnosis the administration of a purgative and the subsequent examination of the motions for proglottides and ova are recommended by some writers. But a purgative is not always successful in bringing away proglottides, and examination of the fæces for ova is an unpleasant process. Moreover, the administration of a brisk purgative may be contra-indicated by certain conditions, such as hæmorrhoids. The further administration of an anthelmintic as a means of diagnosis involves inconvenience and discomfort. Mr. Cyriax has found deep *pétrissage* of the abdomen successful in causing the expulsion of proglottides when purgatives failed to produce this result. The following is an example. A man, aged 50 years, came under observation, complaining of constipation of 20 years' standing, flatulence, and an "uneasy feeling" in the umbilical region, which had been present for a long time. He had to use laxatives and enemas continually in order to produce an action of the bowels. His appetite was good. Examination of the abdomen was negative except for some tenderness over the descending colon. At first it was thought that the sensation felt in the abdomen was due to constipation. The patient was advised to stop the purgatives and to undergo a course of deep *pétrissage* of the abdomen and exercises for strengthening the abdominal wall. After three séances he passed a segment of a tapeworm independently of a motion. After another he passed about 20 segments. Male fern, followed by castor oil, was administered, and three yards of worm were passed. The umbilical sensation diminished and after ten

days disappeared. The deep abdominal *pétrissage* recommended by Mr. Cyriax consists of a series of deep circular movements executed in the direction of the large intestine with sufficient energy to cause thorough kneading of the abdominal contents. In carrying it out the abdominal parietes and the fingers of the operator must move as one over the underlying viscera. Otherwise the process would be merely superficial *effleurage*, which hardly influences the viscera. It is not necessary for the *pétrissage* to be very energetic, and if properly performed it should cause no pain. It seems to cause dislodgment of proglottides in two ways—by promoting peristalsis and by mechanically separating segments of the parasite by tearing through their attachments. The latter is probably by far the more important. As a rule, only three or four séances of 15 minutes each are necessary to establish a definite diagnosis.

IS STARCH A SUITABLE FOOD FOR INFANTS?

THE strongest argument of all against the use of starch in the infant's dietary is the practical fact that starch is absolutely alien to the natural food of the very young child, and evidence is not wanting that its presence in food is prone to invite disorders of the bowel and stomach. On the other hand, certain authorities have declared that some infants, at any rate, are known to have assimilated starch without digestive disorder. It is probable, however, that the rule that infants should defer a starchy diet until they have cut some teeth is safe and generally speaking applicable. There has recently arisen out of these considerations a very important case under the Sale of Foods and Drugs Acts. A chemist at Oakham, Rutlandshire, was summoned for selling a preparation of infants' food which the evidence showed contained upwards of 70 per cent. of practically unaltered starch, and the preparation was therefore regarded by the prosecution as not of the nature, substance, and quality demanded by the purchaser. Evidence was brought forward to the effect that the great preponderance of starch in the food made it very unsuitable for children, and young children especially. Dr. Christopher Rolleston, the medical officer of health of Rutland, in giving this opinion, said that the saliva given out by a young child was nothing like that of a grown-up person, and the starch could not be properly assimilated, with the result that it would cause diarrhœa and sickness. He would not expect to find, even when following the directions for the preparation of the food, any great change from starch to sugar as was contended in the defence. Mr. S. F. Burford, an analytical chemist, of Leicester, said he had made an examination of the food, and he was satisfied that the purchaser was not prejudiced by its description if it was prepared as directed on the label. He had no hesitation in saying that it was a good food for infants. Another witness stated that she had brought up two of her children on the food in question, one of them from three weeks old, and that child was the strongest of her three children. The magistrates eventually decided that the case had been made out and imposed a nominal penalty. This conviction promises to be far-reaching in its effects, since there are a great number of widely advertised infants' foods upon the market which contain a large proportion of starch, and which, even under the conditions of preparation, do not present this starch in a predigested form. Some of them, whilst originally containing raw starch, give evidence of this starch having been converted into a soluble variety, or into dextrin or sugar, or the mode of preparation signifies a predigestion of starch before it is given to the child. It is evident that some differentiation is needed by law in these cases if it can be definitely shown that raw starch is indigestible and unsuitable to the needs of the infant, and on the whole we are inclined to accept the evidence against the use of such foods, having regard to the fact that raw starch is not a constituent of the natural food of the quite young child, and even predigested starch can never be regarded as a satisfactory substitute for milk fat, milk protein, and milk sugar. It will be interesting to await the developments which seem certain to follow this successful summons.

EPIGASTRALGIA IN SERUM SICKNESS.

IN the *Progrès Médical* of March 16th Professor Lafforgue, of Val-de-Grâce, has called attention to a symptom of "serum sickness" which appears to have attracted little notice—epigastralgia. In the following case it was marked. A pupil at the military school was admitted into hospital on Dec. 5th, 1911, on the fourth day of a severe attack of diphtheria. In consequence of the gravity of the symptoms 40 c.c. of antitoxic serum were injected on the same day, 40 more on the following day, and 30 on the third day. Then, as the local condition of the throat proved obstinate, 20 c.c. were given daily for six days. In all 230 c.c. were given and produced local and general improvement, without, however, completely clearing the throat. The left anterior pillar of the fauces remained covered with a pultaceous coating in which a few diphtheria bacilli persisted and diplococci taking Gram's stain predominated. On Dec. 14th the injections were stopped in consequence of local pain and swelling at the site of the last two punctures. At the same time symptoms of serum sickness appeared—an urticarial eruption in the flanks, nausea, vomiting, and a temperature varying from 100·4° to 102·2° F. The urticaria became general, involving even the face, which was very œdematous, and there was morbilliform erythema of the chest, abdomen, and thighs. Arthralgia of most of the joints and myalgia, particularly lumbago, also were present. The pain on movement was so great that the patient could not turn in bed. On Dec. 16th, at noon, epigastric pain began and was accompanied by vomiting and diarrhœa. The pain was severe, and was described by the patient as situated deep in the epigastrium. It was continuous but subject to violent exacerbations which caused the patient to groan. He sat up in bed with the thorax flexed acutely on the abdomen, but was unable to obtain relief. On the other hand, objective symptoms were slight. Pressure on the epigastrium was almost painless. There was some rigidity of the recti, especially of the left one, but the rest of the abdominal wall was supple, and there was neither meteorism nor retraction. Hot fomentations, liniments of chloroform and laudanum, and the application of ice failed to give relief. The pain yielded only to an injection of morphine, but recurred some hours later, necessitating in the night another injection, the effect of which was a little more permanent. The pain recurred in an attenuated form in the morning and disappeared in the afternoon, having lasted more than 24 hours; it was accompanied by nausea and vomiting. The face was pale and drawn, but the pulse was normal and good. This combination of symptoms caused some anxiety, as the systematic writers do not mention epigastralgia among the results of serum injections. In the *Progrès Médical* of May 11th Dr. Bourdinière has reported another case in which epigastralgia followed injection of serum. A man, aged 38 years, was admitted into hospital in November, 1911, for meningitis. Lumbar puncture showed abundant lymphocytosis, but cultures made from the cerebro-spinal fluid were negative. He recovered, but a relapse occurred on Dec. 28th. On the 29th lumbar puncture yielded clear fluid containing lymphocytes and a diplococcus. Twenty cubic centimetres of antimeningococcic serum were injected into the spinal canal. Almost immediately the patient began to suffer from

epigastric pain so severe that he kept his legs flexed on his abdomen in order to relax his abdominal muscles and relieve the pain. Delirium and convulsion followed, he gradually became comatose, and died ten hours after the injection. The necropsy showed acute meningitis, fatty degeneration of the liver, and œdema of the lungs. Death appeared to have been due to the injection, for the relapse was less severe than the primary attack from which the patient had recovered. Evidently he was hypersensitive to horse serum.

THE DIAGNOSIS OF SLEEPING SICKNESS BY GLAND PALPATION AND PUNCTURE.

EXPERT opinion has varied much regarding the precise value of gland palpation, followed by puncture and examination of gland juice, as a method for detecting cases of human trypanosomiasis. In order to make further observations upon this process, as well as to collect information upon other matters of interest connected with the disease, the Liverpool School of Tropical Medicine last year despatched Dr. John L. Todd and Dr. S. B. Wolbach to the Gambia, where sleeping sickness has existed in sporadic form for the last 50 years or more, and where it was believed excellent opportunities would be found for testing the value of gland palpation and puncture. A portion of the interesting report of these two observers has been published in the form of a paper in the *Annals of Tropical Medicine and Parasitology*, Vol. V., No. 2, under the title of "The Diagnosis and Distribution of Human Trypanosomiasis in the Colony and Protectorate of the Gambia." It appears that the native population of the Gambia being mostly engaged in agricultural pursuits seldom travels from home, and to this circumstance largely is attributed the fact that sleeping sickness has not spread greatly in and around the colony, although the disease has been present, as has been mentioned already, for two or three generations. It is noteworthy that in this region, as well as in other places along the West Coast of Africa, there is a general belief among the tribes that enlargement of the cervical glands is one of the earliest indications of the onset of sleeping sickness infection. There exists also among these natives a firm impression that removal of the enlarged glands is very desirable in order to prevent extension of the disease in the person attacked; and they insist that the excision should be performed as early as possible, before the virus has "gone into the body." Some of the native medicine-men remove the affected glands with the help of a knife and a piece of wire; while others, less expert, adopt another course not unknown among unqualified practitioners nearer home, and profess to "draw out" the mischief by the application of various kinds of plasters. The early occurrence of glandular enlargement in human trypanosomiasis naturally suggested that examination of these swellings would furnish a trustworthy means of correctly diagnosing the presence of the disease. It was also thought that the method by palpation and puncture would prove useful in instances where the number of natives to be examined was large and the skilled medical staff available small. The objection was at once raised that in areas where sleeping sickness occurs sporadically many of the natives suffer from enlargement of their glands without obvious cause. In reference to this Dr. Todd and Dr. Wolbach point out that when inquiry was made some time ago into the subject in the Congo Free State the conclusion arrived at was that in regions where human trypanosomiasis exists all negroes with enlarged glands must be considered as cases of the disease until the contrary is proved. In discussing the comparative value of the different methods for diagnosing sleeping sickness the German Commission expressed the opinion that blood examination was the safest, simplest, and speediest means of establishing a correct diagnosis, and in this connexion Professor R. Koch asserted that in East Africa "50 per cent. of trypanosome carriers could be detected by a single examination of the blood." Dr. Todd and Dr. Wolbach, however, contend that Professor Koch's assertion would have been impossible if the carriers examined had been the early cases occurring in the Gambia and in the Congo Free State. These two observers tried a number of the procedures recommended for examining the blood, but finally decided that the most convenient and most effectual routine method for detecting human trypanosomiasis was gland palpation and puncture. They place the other procedures in the following order—cover-slip preparation of the blood, centrifugalisation of the blood, thick blood films, blood smears, and animal inoculations.

THE MORBID ANATOMY OF PARATYPHOID FEVER.

ALTHOUGH cases of paratyphoid fever appear to be by no means uncommon, yet, owing to their comparatively mild character, very few observations have been recorded upon the morbid anatomy of this disease. An interesting review of this subject, written before the delivery of Professor F. A. Bainbridge's Milroy Lectures,[1] is published by Dr. Jean Louis Burckhardt, of Basle, in the *Centralblatt für Allgemeine Pathologie und Pathologische Anatomie* of Jan. 31st. Dr. Burckhardt has found six cases recorded of paratyphoid B in which the pathological changes found after death are described. These he reviews with brief abstracts of the morbid appearances found, and then records a case investigated by himself. The patient was a young woman, aged 24, admitted to hospital under Professor Gerhardt, and the clinical features of her disease were practically those of enteric fever. There were fever, headache, and vomiting at the onset. On the fourth day typical roseolous spots were present and a mild bronchitis was noted. Diarrhœa, enlargement of the spleen, leucopenia, and the diazo-reaction all developed, as in enteric fever. The temperature varied between 38·7° and 40·8° C. from the fourth to the ninth day of the disease and the pulse ranged between 100 and 160. Death occurred on the twelfth day. Bacteriological investigation during life gave negative agglutination results with bacillus typhosus, positive with paratyphoid B in a dilution of 1 in 20. A few days before the death of the patient an organism was recovered in pure culture from the blood which gave all the reactions of paratyphoid B. These results were, however, not completed until after the patient had died. Cultures made from the contents of the gall-bladder removed after death gave a bacillus in pure culture which proved to be paratyphoid B. The tubes inoculated from the spleen remained sterile. Serological tests confirmed the view that these organisms were paratyphoid B. The appearances observed at the necropsy were hyperæmia of the ileum and slight swelling of a few Peyer's patches. In the ileo-cæcal valves, the colon, and the rectum there were a few ulcers with sharp edges and about 0·5 to 1 cm. in diameter. The mucous membrane was hyperæmic and the intestinal contents were liquid. The spleen was moderately enlarged and its consistence was little altered. The microscopical appearances, as well as those just described, would have served for those of a case of ordinary enteric fever. In the base of the intestinal ulcers there were leucocytes, large cells with phagocytic properties, which were like Rindfleisch's "typhoid cells," and a fibrinous exudate in the tissues. The only feature not characteristic of the lesions of enteric fever was that the ulcers were not confined to the lymphoid tissues of the bowel. Necroses in the lymphatic glands, like those in enteric fever, were present, and there

[1] THE LANCET, March 23rd (p. 772) and 30th (p. 849), 1912.

was a marked increase in the cells of the lymph sinuses, especially of the same phagocytic cells as those in the intestine, and abundant clumps of bacteria were found. In the liver lymphomata were found in the lobules similar to those occurring in enteric fever. Dr. Burckhardt compares the appearances found in his own case with those in the cases he has discovered in the literature of the subject, and concludes that in the cases so far recorded no lesions characteristic of paratyphoid fever have been found, and that there is no typical picture in this disease from the standpoint of morbid anatomy and histology. The only suggestive features are the slight involvement of Peyer's patches, and in some cases the localisation of the ulcers in the large intestine only. It follows that the only certain distinctions between enteric fever and paratyphoid are given by the bacteriological and serological methods of investigation.

Sir William Bennett has decided to entrust the administration of the £10,000 left to him under Lord Wandsworth's will for the promotion of medical research to the London School of Tropical Medicine. The conditions under which the money will be spent include the establishment of a research scholarship, tenable for two or three years, and to be given by preference to a British subject. The scholar will be appointed by the committee of management of the Seamen's Hospital, on the recommendation of the committee of the London School of Tropical Medicine.

THE annual dinner of the Indian Medical Service will be held at the Hotel Cecil on Thursday, June 13th, at 7.45 P.M., when Surgeon-General J. P. Greany will be in the chair. The Service will have the honour of entertaining as its guest Sir Richmond Ritchie, K.C.B., Permanent Under Secretary of State for India. Applications for dinner tickets should be made to Lieutenant-Colonel P. J. Freyer, honorary secretary, 27, Harley-street, London, W.

THE Fellows' new library and offices of the Royal Society of Medicine will be reopened at the Society's new house, No. 1, Wimpole-street, London, W., at 11 A.M., on Wednesday next, May 29th. On and after June 1st until the end of July any member of the profession desiring to visit and inspect the Society's library and halls will be heartily welcomed upon presentation of his visiting card.

His Majesty the King has approved of the special promotion of Colonel Sir David Bruce, C.B., F.R.S., to the rank of Surgeon-General, in consideration of his eminent services in the cause of science.

ROYAL MICROSCOPICAL SOCIETY.—A meeting of this society was held on May 15th, Mr. H. G. Plimmer, F.R.S., the President, being in the chair. Mr. F. R. Chopping exhibited and described a new Noiseless Shaking Apparatus designed by him, and which he had named the "Westminster Shaker." It is driven by a small motor by means of an eccentric on a countershaft connected by a rod to the tube carrier, which is supported on a rocker. This shaker has been proved to be highly efficient; it takes very little power and is practically silent. Mr. E. G. Wood exhibited and described a Combined Microscope and Telescope in pocket form. The society held its annual exhibition of Pond Life. Among the objects exhibited were nitella, showing the streaming protoplasm, cyclosis in anacharis, and cyclosis in vallisneria, under a 1/10 inch apochromatic oil immersion objective; various rotifers and freshwater polyzoa; the brine shrimp and the nauplius stage of the same; coscinodiscus, showing by the aid of the dark-ground reflecting condenser the radiating filaments described by Mr. Siddall at the last meeting.

A PROBABLE EFFECT OF CONTROL OF MILK-SUPPLY UPON INFANTILE MORTALITY FROM TUBERCULOSIS:

EVIDENCE OBTAINED IN MANCHESTER REGARDING THE QUESTION.[1]

BY SHERIDAN DELÉPINE, M.B., C.M. EDIN., M.SC. MANCH.,
PROFESSOR OF PUBLIC HEALTH AND BACTERIOLOGY; DIRECTOR OF THE PUBLIC HEALTH LABORATORY, UNIVERSITY OF MANCHESTER.

1. *Introduction.*

IN the Thirty-eighth Annual Report of the Local Government Board just issued Dr. Newsholme states (p. VIII.): "Infant mortality has a specially important place in the tests for national well-being. During 1908 more than one-fifth of the total deaths at all ages in England and Wales occurred in infants during the first year of life." It is therefore a matter of congratulation to find that infantile mortality is being rapidly reduced in this country. Dr. T. H. C. Stevenson, in the Seventy-second Annual Report of the Registrar-General (1909), gives us the following information (p. LXIII.): "Of the 518,003 deaths registered during the year in England and Wales, 99,480, or 19 per cent., were those of infants under one year of age, corresponding to a mortality rate of 109. This rate was ..... 21 per cent. below the average in the 10 years 1899–1908."

Some of the most important causes of infantile mortality are indicated in Table H of the Supplement to the Sixty-fifth Annual Report of the Registrar-General (p. CXI.), which gives the mortality of infants and young children per 1000 births in England and Wales during the decennium 1891–1900. (The figures for the last decennium are not yet available.)

TABLE I.—*Mortality of Infants and Young Children per 1000 Births, in England and Wales, 1891–1900.*

Cause of death.	Ages at death.							
	Under 3 months.	3–6 months.	6–12 months.	Total under 1 year.	1–2 years.	2–3 years.	3–4 years.	4–5 years.
Common infectious diseases	1.30	1·83	6·90	10·03	11·59	6 09	4·54	3·27
Diarrhœal diseases	7·63	9 10	10·32	27·05	4 62	0·71	0·31	0 18
Wasting diseases ...	35 57	4·25	2·62	44·44	1·15	0 21	0 07	0 04
Tuberculous diseases	1·40	2·52	4 00	7·92	4·14	1·78	1·06	0·82
Other causes	26·08	14·63	23·18	63·89	20·86	7·21	4·14	2·93
All causes...	73·98	32 33	47·08	153·33	42·36	16·00	10 12	7 24

This table shows that during the 10 years 1891–1900 there died yearly from tuberculous diseases on an average 792 infants out of 100,000 under 1 year of age. This mortality is small as compared with that due to diarrhœal and wasting diseases. It must, however, be remembered that an appreciable number of children cut off by common infectious diseases, diarrhœa, broncho-pneumonia, wasting, and other diseases *are also affected with tuberculosis*. It must also be kept in mind that the number of infants dying from tuberculosis in their first year does not indicate the amount of tuberculous infection taking place during that period. Many of the infected children survive their first year, but it is impossible in the present state of our knowledge to say how many of the deaths occurring in later years are due to infection during infancy. Nor is it possible to say how many of those who have been infected early in life ultimately recover permanently.

There is considerable evidence supporting the view that infected food plays a considerable part in the production of diarrhœal, tuberculous, and wasting diseases. For the present I must confine my remarks to tuberculous diseases.

[1] Part of a lecture delivered at Reading on Nov. 29th, 1911.

2. *Relative Importance of Infection through the Respiratory and Alimentary Passages.*

It is difficult to estimate accurately the share taken respectively by aerial and by food infection in the spread of tuberculosis. Experimental and post-mortem observations indicate that both forms occur, and from the post-mortem records collected by several observers it would appear that infection through the alimentary canal is fairly frequent during infancy. Some indication of the probable frequency of infection through food may be obtained from the rates of mortality from various types of tuberculous diseases at various ages.

It is probable that although pulmonary tuberculosis may be due to infection through the alimentary canal, no other organ is liable to aerial infection to the same extent as the lungs, and that the number of deaths from pulmonary tuberculosis, or from lesions of the lungs grouped under the name phthisis, include most of the cases of aerial infection, and may be taken to indicate roughly the possible frequency of this mode of infection.

On the other hand, deaths from tuberculosis of the intestine and mesenteric glands, of the peritoneum, of various lymphatic glands, and of bones, which constitute the bulk of the deaths attributable to tuberculous diseases other than pulmonary tuberculosis, may be taken to indicate roughly the possible frequency of infection through the intestine, notwithstanding the fact that a certain proportion of these deaths may be the result of aerial and other forms of infection.

By comparing the mortality at various ages attributable to each of these two large groups of tuberculous diseases one finds that at the two age-periods—viz., 0 to 5 years and 25 to 55—at which tuberculosis claims the greatest number of victims the relative importance of the two great groups previously mentioned is reversed. Thus, among persons under 5 years of age the number of deaths attributable to tuberculous disease other than phthisis is considerably greater than the number of deaths attributable to phthisis.

TABLE II.—*Annual Mortality from Tuberculosis per Million Living, at All Ages and at 11 Groups of Ages, among Persons in the Decennium 1891–1900.* (Supplement to the Sixty-fifth Annual Report of the Registrar-General, pp. XCI., XCIII.)

—	Tuberculosis, all forms.	Phthisis.	Tuberculosis other than phthisis.
All ages	2010	1391	619
0 to 5 exclusive	3930	413	3517
5 „ 10 „	724	206	518
10 „ 15 „	669	368	301
15 „ 20 „	1396	1144	252
20 „ 25 „	1936	1730	206
25 „ 35 „	2302	2135	167
35 „ 45 „	2742	2592	150
45 „ 55 „	2492	2362	130
55 „ 65 „	2007	1881	126
65 „ 75 „	1263	1154	109
75 and upwards	512	437	75

Actual Number of Deaths during the Same Period.
(Same Supplement, p. 3)

Deaths from all causes	5,375,375
„ „ tuberculosis (all forms)...	616,006
„ „ phthisis	426,224
„ „ tuberculosis other than phthisis ...	189,782

Among persons over 5 years of age the mortality attributed to phthisis gradually grows in importance, and above the age of 15 most of the deaths attributable to tuberculosis are due to phthisis.

3. *Manchester Method for Preventing Tuberculous Infection of the Milk-supply.*

Impressed by the fact that tuberculous cows' milk is one of the most probable sources of infection of children, we have in Manchester since 1896 attempted to reduce the amount of tuberculous milk supplied to the town. The administrative procedure has been influenced by the results of careful preliminary experiments which had shown us that tuberculosis of the udder is by far the most important source of tuberculous infection of the milk.

Milk arriving in town from various farms is frequently tested by inoculation, and when the milk coming from a farm is found tuberculous that farm is visited by a veterinary inspector who examines all the cows and takes samples of milk from the udders which appear to be affected with tuberculosis. These samples are tested by inoculation, and the farmer is requested to isolate any cow found to produce tuberculous milk. He is also advised to have such a cow slaughtered as soon as possible.

The effect of the system of control has been very marked, as may be seen from the records of the work done between 1897 and 1910.

TABLE III.—*Mixed Milk Collected in Manchester at Railway Stations or Places other than the Farms, 1897–1910.*

—	Total number of samples examined.	Number tuberculous.	Percentage.
1897–1899	110	19	17·2
1900	358	40	11·1
1901	440	43	9·7
1902	424	38	8·9
1903	430	51	11·8
1904	425	43	10·1
1905	757	60	7·9
1906	704	47	6·6
1907	722	43	5·9
1908 (including a few farm samples) ...	341	30	8·7
1909	649	36	5·5
1910	528	32	6·0
Totals	5888	502	8·5

From this table it will be seen that the quantity of tuberculous milk reaching Manchester has been reduced to nearly one-third of that which it was 14 years ago. That this reduction has been obtained by the removal of cows with tuberculous udders from farms sending milk to Manchester is proved by the fact that the number of farms producing tuberculous milk has been reduced in almost exactly the same proportion.

The chief alternative to the method adopted in Manchester would have been the sterilising of all milk used for feeding infants. Apart from the objection which is offered by many people to sterilised milk, there is the greater objection that sterilisation leaves the sources of infection unchecked, and is consequently an incomplete measure. As long, however, as tuberculous milk remains an important part of the milk-supply it will obviously be desirable not only to reduce the amount of infected milk, but also to sterilise all the milk coming from places where tuberculous milk is still produced.

4. *Has the Control of the Milk-supply affected the Infantile Mortality from Tuberculosis in Manchester?*

The question will naturally be asked, "What effect has this reduction in the amount of tuberculous milk used in Manchester had upon the infantile mortality attributable to tuberculosis?" I have from the beginning watched closely the returns published by Dr. James Niven in order to ascertain whether there was any sign of improvement. At first I found that improvement was very slow, but now that a sufficient number of years has elapsed I think that the statistics relating to infantile mortality show unmistakable signs of a steady improvement greatly in excess of the improvement which may be attributed to the progress in the general sanitary state of the town. Further, there is also evidence that the reduction in infantile mortality due to tuberculosis in Manchester is progressing more rapidly than it does on an average in the rest of the country.

The position of Manchester with regard to mortality from all causes, and from tuberculosis in particular, was very bad 20 years ago, and is still far from satisfactory. The great improvement which has taken place since 1890 has not yet been sufficient to bring Manchester to the level reached by many other towns, but Manchester had to start from a

position which was very much worse than that of those towns. It is very doubtful whether it is possible to compare any two towns, not only because it is difficult to find two towns absolutely comparable as regards social, commercial, and other conditions, but also because it is impossible to appreciate how the various administrative measures which are carried out in various centres interact. When possible it is best to compare the effects of various measures in the same town, and to compare these various effects with the changes occurring on an average through the whole country.

To estimate the improvement which has taken place in Manchester with regard to mortality attributable to infection of food it is necessary to allow for the improvement due to sanitary measures *not* directed against tuberculous infection of food. It is not possible to do this with absolute accuracy, but it is obvious that the successive yearly death-rates from all causes indicate roughly the effects of general sanitation as well as those of measures affecting the food-supply only. On the other hand, the steps taken to prevent phthisis on the supposition that it is mostly due to aerial infection must produce on the mortality from tuberculosis an effect differing from that resulting from the measures directed specially against tuberculous infection of food. It is therefore obvious that if the improvement which has taken place in the mortality from tuberculous diseases *other than phthisis* is the same or less than that observed with regard either to mortality from *phthisis* or to mortality from *all causes*, nothing could be safely claimed as the result of the improvement of the milk-supply. On the other hand, if *the reduction in the mortality from tuberculous diseases other than phthisis is distinctly greater than the reduction in the mortality from phthisis or from all causes*, it is reasonable to claim that this result is at least in part probably due to improvement in the milk-supply.

From data published in the annual reports of the medical officer of health, supplemented by some fuller information kindly supplied to me by Dr. Niven, I have prepared a number of tables showing from year to year what the position has been in Manchester between the years 1891 and 1910 with regard to the mortality (1) from all causes, (2) from phthisis, and (3) from tuberculous diseases other than phthisis in three groups of persons—(*a*) Persons at all ages, (*b*) children under 5 years of age, and (*c*) children under 1 year of age. In each case I have taken the death-rate for the last quinquennium as a term of comparison to find what relation there was between that unit and the rates for the previous years or quinquennia. This is what I call the ratio to the 1906-10 rate. From this ratio it is possible to ascertain how many persons died in 1890, for instance, to each person (or 100 persons) dying from a certain cause during each of the last five years on an average. For instance, I find that the number of deaths from all causes corresponding to 100 in 1906–10 was 136 in 1886–90. By this method it is easy to obtain comparable figures and to estimate the progress effected during a certain period with regard to various causes of death. (In order to find as far as possible the state of things previously to the period selected I have added to the figures published in the Manchester annual reports those relating to the decennium 1881–90, as given in the supplement to the sixty-fifth annual report of the Registrar-General.) The amount of space which the Editor of THE LANCET can allow does not permit of the detailed tables being published in this communication. I can only say that these tables show that, as regards the mortality per *1000 persons at all ages*, there was a rise up to 1891–95, after which there was a steady fall. The improvement since 1891 is indicated by the ratio 1·33. With regard to phthisis there was already a marked fall before 1891–95. The improvement which has taken place since 1891–95 is indicated by the ratio 1·26. There was a rise in the mortality from tuberculous diseases other than phthisis before 1891–95, followed since that date by a rapid diminution indicated by the ratio 1·64. The reduction in the mortality from that cause has therefore been much more rapid than that observed in connexion with all causes of death and with phthisis respectively. The ratios relating to mortality among *children under 5 years* of age point in the same direction :—

$\frac{1891\text{–}95}{1906\text{–}10}$ ratio for		
all causes	... ...	1·43
,, ,, ,,	phthisis	0·92
,, ,, ,,	tuberculous diseases other than phthisis	1·98

The number of deaths from phthisis at that age is so small that the statistics have little value, but the figures nevertheless suggest very clearly the importance of infection through the alimentary canal, as compared with infection through the air passages. It is, however, when the *ratios relating to infantile mortality* are studied that one perceives the great improvement which in all probability has resulted from the reduction in the amount of tuberculous milk :—

$\frac{1891\text{–}95}{1906\text{–}10}$ ratio for		
all causes	... ...	1·26
,, ,,	phthisis	0·90
,, ,,	tuberculous diseases other than phthisis	2·12

It might, however, be supposed that the reduction in mortality from tuberculous diseases observed in Manchester is the result of some improvement which has taken place all through the country owing to the better education of mothers, and possibly also to some other obscure cause or causes. In order to ascertain whether this was the case I have prepared from the returns published by the Registrar-General tables relating to England and Wales, corresponding to the Manchester tables. By means of these tables it is easy to compare the $\frac{1891\text{–}95}{1906\text{–}10}$ ratios for the whole of England and Wales with those for Manchester.

TABLE IV.—*Reduction in Mortality from all Causes, from Phthisis, and from Tuberculosis other than Phthisis during the 20 Years 1891–1910.*

—	$\frac{1891\text{–}95}{1906\text{–}10}$ ratios.	
	England and Wales.	Manchester.
Mortality at all ages—		
From all causes	1·25	1·33
From phthisis	1·30	1·26
From tuberculous diseases other than phthisis	1·41	1·64
Mortality under 5 years—		
From all causes	(1·41*)	1·43 (1·43*)
From tuberculous diseases other than phthisis	(1·53*)	1·98 (1·78*)
Mortality under 1 year—		
From all causes	(1·28*)	1·26 (1·28*)
From tuberculous diseases other than phthisis	(1·75*)	2·12 (1·94*)

* When quinquennial rates were not available in a published form I have made use of the decennial figures, giving the $\frac{\text{Decennium 1891–1900}}{\text{Decennium 1901–1910}}$ ratio.

(N.B.—The improvement is directly proportional to the ratio given in this table.)

5. *Conclusions.*

It is clear that, although infantile mortality is still high in Manchester, it has been reduced during the last 20 years at a rate which compares favourably with that observed in the rest of the country on an average, and that as regards the mortality which is in great part attributable to the tuberculous infection of food the reduction which has taken place in Manchester is materially greater than that observed in connexion with other causes of disease both in Manchester and in the whole of England and Wales. It would appear, therefore, reasonable to suppose that the reduction in the amount of tuberculous milk supplied to Manchester has had a distinctly beneficial effect.

Note.—In the second section of this paper the views held by the author are stated without any reference to the scientific evidence upon which they are based. This has been dealt with more or less fully in previous papers by him, among which the following may be specially referred to. "The Value of Experimental Tuberculosis in Diagnosis." Brit. Med. Jour., 1893; "Tuberculous Infection through the Alimentary Canal." Medical Chronicle, 1895; "Examination of Cow's Milk for the Detection of Pathogenic Properties," Journal of Comparative Pathology and Therapeutics, 1897; "A Lecture on Tuberculosis and the Milk-supply," THE LANCET, Sept. 17th, 1898, p. 733; "Prevalence and Sources of Tubercle Bacilli in Cow's Milk," Annual Report of the Medical Officer of the Local Government Board for 1908–09; "Contribution to the Study of the Influences Determining the Prevalence of Bovine Tuberculous Mastitis," Proceedings of the Royal Society of Medicine, 1910.

MEDICINE AND THE LAW.

Bell v. William Hunt and Sons, Limited.

THIS was the case already referred to in THE LANCET,[1] when it was before the Court of Appeal, in which a workman who had suffered from loss of sight in one eye as the result of an accident had subsequently been able to obtain work because the defect in his sight had not been observed. As the result, however, of a second accident he had had to have his blind eye removed, and his defect thus rendered obvious prevented him from obtaining work. The majority of the Court of Appeal (Lord Justice Fletcher Moulton dissenting) held that the words "incapacity for work" in the Workmen's Compensation Act must be interpreted strictly, and that the man was not entitled to compensation from his employers in respect of the second accident, because his incapacity for *performing* work was the same after it as before, incapacity for *obtaining* work only being the result of the second accident. The House of Lords reversed the judgment of the Court of Appeal, the Lord Chancellor saying that in his opinion, in the ordinary and popular meaning of the words, there was incapacity for work when a man had a physical defect which rendered his work unsaleable in any market reasonably accessible to him, and that in like manner there was a partial incapacity when his work was rendered less saleable. The opposite view would leave a workman uncompensated for what might be real and direct consequence of an injury. Lord Shaw gave judgment to the same effect, but called attention to the necessity for distinguishing between a difficulty in obtaining work directly due to an injury, and any such difficulty, possibly arising simultaneously, which might be due to the state of the labour market and to economic causes. Lord Macnaghten and Lord Atkinson concurred, and the case was accordingly remitted to the arbitrator for the assessment of compensation.

Allegations of Insanitary Conditions in an Office.

In the action Powell *v.* The Junior Army and Navy Stores, Limited, recently tried before Mr. Justice Darling and a special jury, the plaintiff, a clerk, sued his employers for damages, alleging that he had contracted phthisis through their neglect to provide reasonably proper accommodation in the room in which he worked, or in the alternative through the defendants allowing the room to be so overcrowded as to be a public nuisance. Evidence was given by the plaintiff, who was not denied to be seriously affected with phthisis, and by witnesses on his behalf, to the effect that the clerks in the deposit office in which he worked suffered from discomfort due to overcrowding and lack of ventilation, and names were mentioned of persons so employed who were alleged to have become ill through the conditions of which the plaintiff complained. Dr. Leonard Hill gave evidence for the defendants to the effect that he had examined the room at 3 or 4 o'clock one afternoon and had found the ventilation and general conditions satisfactory. Medical evidence was given by Dr. Hill and other medical witnesses as to the causation of phthisis, and to the effect that it could not have been due in the plaintiff's case to any neglect on the part of the defendants such as he alleged. It was denied on the part of the defendants that complaints as to the sanitary conditions of the office had been made, but admitted that there had been complaints as to stuffiness in hot weather. Stress was laid upon the fact that the plaintiff could have left his employment had he desired upon giving a week's notice, but that if he complained, as he alleged, he remained in the defendants' service. Mr. Justice Darling, having summed up, left the following questions to the jury, which were answered as indicated: 1. Were the conditions of the deposit office injurious to the health of the persons employed in it, including the plaintiff?—Yes. 2. Were they so to the knowledge of the defendants?—No. 3. Was the office so overcrowded as to be injurious or dangerous to the health of the inmates, including the plaintiff?—Yes. 4. Was the plaintiff in consequence of the conditions prevailing in the deposit office disabled from following his employment?—No. 5. Did the plaintiff agree to incur the risk of continuing his employment in the office?—Yes. Upon these findings judgment was entered for the defendants.

[1] THE LANCET, vol. i., 1911, p. 830.

THE LONDON COUNTY COUNCIL AND MEDICAL AFFAIRS.

Provision of an Eleventh Asylum.

THE Asylums Committee of the London County Council on May 21st asked the Council to approve an estimate on capital account of £517,970 for the erection and equipment, at Horton, of the eleventh asylum for patients in the county of London. This amount was exclusive of £2000 for preliminary expenses. The committee stated that the working drawings had been informally approved by the Lunacy Commissioners, with the exception of some minor matters of detail. It had been thought desirable to make provision in the plans for a hospital on each side of the asylum for 30 male or 30 female phthisical or dysenteric cases, and the total accommodation would therefore be 2066 beds. The cost per bed, including an apportionment of the cost of an electricity generating station, worked out as follows:—Horton, £243; Long Grove, 247; and the new asylum (estimated), £235. At the request of the Finance Committee the Asylums Committee had considered as to the practicability of building the new asylum in sections. The expense would be somewhat greater, and the only reason for building in sections would be uncertainty that the full accommodation would be required from the first. The asylum was hardly likely to be ready in less than four or five years from now, and the committee had therefore gone into the question of the probable number of lunatics for whom it would be necessary to find accommodation by January, 1917. The numbers had increased from 16 957 in 1903 to 20,429 in 1912, the average rates of increase having been for the last ten years 414; for the last five years, 318; and for the last three years, 238. The increase for the last two years had been influenced by the larger number of patients transferred from London county asylums to institutions controlled by the Metropolitan Asylums Board, where there existed many vacancies which had now been filled. Any great assistance in this direction, therefore, could not be expected. The committee felt justified in taking at least the average annual increase for the last five years—318—and on this basis the number of patients requiring accommodation in five years' time would be 2014, this number being arrived at by adding to the number of patients at present boarded out, 424, the total of a five years' increase of 318—viz, 1590. By the time the asylum was built, equipped, and ready for occupation there would be a sufficient number of patients to fill it.

The estimate was approved.

Medical Aspects of the Education Estimates.

The Council was occupied for the first eight hours of the sitting by consideration of the education estimates. Meals for school children were calculated to cost £81,450, medical inspection and treatment £45,675, and special schools as follows: for blind children, £9590; deaf, £17,165; mentally defective, £55,060; physically defective, £43,020; epileptic children, £2460. The estimate for medical inspection showed an increase of £4000 upon the amount spent last year. For medical treatment an increase of £1260 was provided in respect of children suffering from ear, eye, and skin ailments. Provision was included for three new centres for dental treatment of 5000 children at an additional cost of £1470. On the receipts side the Finance Committee reported that it had included £20,000 as the proportion for London of the promised Government grant of £60,000 in respect of medical treatment in England and Wales.

An amendment calling for a supplemental estimate of £5000 for dental treatment was moved by Mr. JEPHSON, who criticised the delay in making substantial progress in this matter. He said that at present only about 15,000 out of half a million children requiring dental treatment were receiving it. The proposal was rejected. Mr. HOLMES then moved to reduce the estimate for medical treatment by £5 on the ground that a great part of the money now being spent on the hospital scheme was wasted. Mr. MATTHEW, who seconded, stated that only at the London Hospital was a nurse in regular attendance for the purpose of seeing that the children understood the instruction received, and that the doctors' prescriptions did not go to the wrong children—a thing of frequent occurrence elsewhere—and the inference was that all the other

hospital schemes were to some extent ineffective. Mr. GAUTREY expressed some doubt as to whether the Finance Committee had not in effect reduced the estimates for medical treatment this year by £5000 or more through over-estimating the amount likely to be received from the Government grant. He believed the share of London of the £60,000 would be not one-third but one-sixth. Mr. COBB, the chairman of the Education Committee, replying to the criticisms raised, quoted Mr. Pease's remarks to the deputation from the British Medical Association last week that the present system, though not an ideal one, was doing good work. He claimed that the working of the present scheme was being improved month by month. The new medical officer was taking up the question from a new point of view and was giving the committee every assistance. This remark drew from Mr. COTTON the inquiry: "Is the committee giving the new medical officer every assistance?" The amendment to reduce the estimate was lost. The whole of the sums mentioned above were approved.

The Board of Education and School Clinics.

At the meeting of the Education Committee on May 22nd the receipt of a long letter from the Board of Education relative to recent proposals of the Council for continuing and extending the present system of medical treatment in the schools was reported. The Board stated that it was not satisfied that the establishment of a large number of medical treatment centres, under conditions similar to those existing at the centres managed by medical practitioners at Norwood and Wandsworth, was in all respects desirable. The constitution of these centres should be modified in several important respects, principally with a view to the Council's exercising a larger measure of control, if they were to form an integral part of the London system of coördinated inspection and treatment. In promising to consider favourably on receipt of further information a proposal to enter into arrangements for treatment with the Metropolitan Hospital, the Board said it had always regarded the schemes of this nature as provisional and experimental, and it hoped it might be found possible, in most cases if not in all, to transfer to local clinics or centres some of the work now done by the hospitals, thus restricting the hospitals to treatment which could not be properly and adequately undertaken by a school clinic. The Board added that it fully appreciated the efforts of the Council in regard to the medical treatment of school children, and realised the difficulties the authority had encountered in its endeavours to frame a comprehensive scheme to this end. Whilst the Board was anxious to aid in those endeavours it thought it desirable that the opportunity should now be taken to place the whole scheme on lines which would lead by a natural development to the establishment of a sound and satisfactory system; otherwise both the Board and the Council might find themselves committed to a policy which it might be difficult subsequently to modify and which might prove unsuited to the needs of the area. The Board asked for a conference on the whole question between its officers and representatives of the Council.

The Education Committee appointed five of its members to take part in the conference which was held on May 23rd.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 95 largest English towns having an estimated population of 17,639 816 persons in the middle of this year, 8440 births and 4292 deaths were registered during the week ending May 18th. The annual rate of mortality in these towns, which had been 14·1, 13 9, and 14·2 per 1000 in the three preceding weeks, decreased to 12·7 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death-rate in these 95 towns averaged 13 9 per 1000, and was 0·5 per 1000 in excess of the average rate recorded in London during the same period. The annual death-rates in the several towns last week ranged from 3·2 in Ealing, 3·7 in Wimbledon, 4·0 in Barnsley, 4 7 in Reading, and 6 3 in Enfield, to 17·9 in Sunderland, 18 2 in Oldham, 18·3 in Blackburn, 18·4 in Cardiff and 23·0 in Rotherham.

The 4292 deaths from all causes in the 95 towns were 503 fewer than the number in the previous week, and included 448 which were referred to the principal epidemic diseases, against 404 and 411 in the two preceding weeks. Of these 448 deaths from the principal epidemic diseases, 161 resulted from measles, 152 from whooping-cough, 65 from infantile diarrhœal diseases, 36 from diphtheria, 17 from scarlet fever, and 17 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·3 per 1000, against 1·2 in each of the three preceding weeks. The deaths attributed to measles, which had declined from 164 to 131 in the four preceding weeks, rose to 161 last week, and caused the highest annual death-rates of 1·9 in Dewsbury, 2 5 in Salford, 2·8 in Ipswich, 3·8 in Merthyr Tydfil, 5·6 in Cardiff, and 5·7 in Rotherham. The deaths referred to whooping-cough, which had been 146, 132, and 139 in the three preceding weeks, rose to 152 last week; the highest annual death-rates from this disease were 1·9 in Merthyr Tydfil, 2·0 in Dudley and in Aberdare, 2·1 in Ipswich and in Oldham, and 2·4 in South Shields. The fatal cases of diarrhœa and enteritis among infants under 2 years of age, which had increased from 40 to 66 in the four preceding weeks, were 65 last week, and included 24 in London and its suburban districts, 7 in Liverpool, 5 in Manchester, 3 in Southampton, and 3 in Bradford. The deaths attributed to diphtheria, which had increased from 31 to 43 in the four preceding weeks, declined to 36 last week; 9 deaths were recorded in London, 3 in Liverpool, and 2 each in Coventry, St. Helens, Rotherham, and Newcastle-upon-Tyne. The deaths referred to scarlet fever, which had been 15, 15, and 19 in the three preceding weeks, were 17 last week, and included 4 in London, 3 in Birmingham, and 2 in Liverpool. The fatal cases of enteric fever numbered 17, against 10, 17, and 13 in the three previous weeks, and of this number 4 were registered in London and 2 in Salford.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had been 1223, 1214, and 1242 at the end of the three preceding weeks, had declined to 1213 on Saturday last; 146 new cases of this disease were admitted to these institutions during the week, against 144, 158, and 168 in the three preceding weeks. These hospitals also contained on Saturday last 979 cases of diphtheria, 623 of whooping-cough, 329 of measles, and 32 of enteric fever, but not one of small-pox. The 1019 deaths from all causes recorded in London were 205 fewer than the number in the previous week, and were equal to an annual death-rate of 11·8 per 1000. The deaths referred to diseases of the respiratory system, which had been 223, 226, and 224 in the three preceding weeks, declined to 167 in the week under notice, and were 6 fewer than the number in the corresponding week of last year.

Of the 4292 deaths from all causes in the 95 large towns, 184 resulted from different forms of violence and 373 were the subject of coroners' inquests. The causes of 27, or 0·6 per cent., of the deaths registered last week were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and its 14 suburban districts, in Leeds, Bristol, Bradford, Hull, Newcastle-on-Tyne, Nottingham, Portsmouth, and in 58 other smaller towns. The 27 uncertified causes of death last week included 5 in Birmingham, 5 in Liverpool, and 2 each in Stoke-on-Trent, Bootle, St. Helens, and Sunderland

HEALTH OF SCOTCH TOWNS.

In the 18 largest Scotch towns, with an aggregate population of 2,182,400 persons in the middle of this year, 1150 births and 661 deaths were registered during the week ending May 18th. The annual rate of mortality in these towns, which had been 15 6 and 15·9 per 1000 in the two preceding weeks, was 15·8 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual rate of mortality in these Scotch towns averaged 16 1 per 1000, and was 2·2 per 1000 in excess of the rate recorded in the 95 large English towns during the same period. The annual death-rates in the several Scotch towns last week ranged from 6·1 in Falkirk, 9·2 in Paisley and in Govan, and 10·0 in Motherwell, to 20 2 in Ayr, 21·3 in Coatbridge, and 22 5 in Leith.

The 661 deaths from all causes were 4 fewer than the number in the previous week, and included 71 which were

referred to the principal epidemic diseases, against 75 and 55 in the two preceding weeks. Of these 71 deaths, 32 resulted from measles, 17 from whooping-cough, 16 from infantile diarrhœal diseases, 3 from diphtheria, 2 from enteric fever, and 1 from scarlet fever, but not one from small-pox. These 71 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·7 per 1000, or 0·4 per 1000 above that recorded in the 95 large English towns. The deaths attributed to measles, which had been 32, 49, and 23 in the three preceding weeks, rose to 32 last week, and included 7 in Glasgow, 7 in Edinburgh, 5 in Dundee, 4 in Leith, and 4 in Coatbridge. The deaths referred to whooping-cough, which had been 12, 9, and 15 in the three preceding weeks, rose to 17 last week; 6 deaths were recorded in Glasgow, 3 in Edinburgh, and 2 in Leith. The fatal cases of diarrhœa and enteritis among infants under two years of age, which had decreased from 12 to 8 in the three preceding weeks, rose to 16 last week, and comprised 5 each in Glasgow, Dundee, and Aberdeen, and 1 in Leith. The 3 deaths attributed to diphtheria, 2 of which were registered in Glasgow, were slightly below the average in recent weeks. The 2 deaths referred to enteric fever were recorded in Glasgow, and the fatal case of scarlet fever in Aberdeen.

The deaths referred to diseases of the respiratory system, which had been 104, 109, and 87 in the three preceding weeks, rose to 103 last week; and 31 deaths were attributed to different forms of violence, against 22 and 31 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an estimated population of 1,157,014 persons in the middle of this year, 729 births and 412 deaths were registered during the week ending May 18th. The annual rate of mortality in these towns, which had steadily decreased from 23·3 to 19·9 per 1000 in the four preceding weeks, further declined to 18·6 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death-rate in these Irish towns averaged 20·6 per 1000; in the 95 large English towns the mean annual death-rate during the same period did not exceed 13·9 per 1000, while in the 18 Scotch towns it was equal to 16 1 per 1000. The annual death-rates in the several Irish towns last week were equal to 18·2 in Dublin (against 11·8 in London), 18 4 in Belfast, 22 5 in Cork, 14·0 in Londonderry, 17·7 in Limerick, and 26 6 in Waterford, while in the 16 smallest of these Irish towns it was equal to 18 1 per 1000.

The 412 deaths from all causes were 30 fewer than the number in the previous week, and included 28 which were referred to the principal epidemic diseases, against 49 and 42 in the two preceding weeks; of these 28 deaths, 8 resulted from measles, 7 from whooping-cough, 7 from diarrhœal diseases, 3 from diphtheria, 2 from scarlet fever, and 1 from enteric fever, but not one from small-pox. These 28 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·3 per 1000, and corresponded with the rate in the 95 large English towns, while in the 18 Scotch towns it was equal to 1·7 per 1000. The deaths attributed to measles, which had been 16, 15, and 15 in the three preceding weeks, declined to 8 last week, and were all recorded in Dublin. The deaths referred to whooping-cough, which had been 10, 15, and 10 in the three preceding weeks, declined to 7 last week, and included 4 in Belfast and 2 in Dublin. The fatal cases of diarrhœa and enteritis, which had been 13, 10, and 8 in the three preceding weeks, were 7 last week, all of which related to infants under two years of age; 3 deaths occurred in Belfast and 2 in Tralee. The 3 deaths referred to diphtheria, 2 of which were recorded in Belfast and 1 in Dublin, were slightly below the average in recent weeks. The 2 deaths attributed to scarlet fever were registered in Dublin and Belfast respectively, and a fatal case of enteric fever in Dublin.

The deaths referred to diseases of the respiratory system, which had steadily decreased from 135 to 103 in the five preceding weeks, further declined to 87 in the week under notice. Of the 412 deaths from all causes in the 22 Irish towns 121, or 29 per cent., occurred in public institutions, and 11 resulted from different forms of violence. The causes of 12, or 2 9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 95 English towns the proportion of uncertified causes of death last week did not exceed 0·6 per cent.

VITAL STATISTICS OF LONDON DURING APRIL, 1912.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 3 9 per 1000 of the population, estimated at 4,519,754 persons in the middle of the year. In the three preceding months the rates were 5·3, 5·3, and 4 6 per 1000 respectively. The lowest rates last month were recorded in Kensington, the City of Westminster, Hampstead, Holborn, the City of London, and Poplar; and the highest rates in St. Pancras, Finsbury, Bermondsey, Greenwich, Lewisham, and Woolwich. The prevalence of scarlet fever showed a considerable decline last month; this disease was proportionally most prevalent in Southwark, Bermondsey, Greenwich, Lewisham, and Woolwich. The Metropolitan Asylums Hospitals contained 1201 scarlet fever patients at the end of last month, against 1473, 1375, and 1296 at the end of the three preceding months; the weekly admissions averaged 129, against 165, 166, and 141 in the three preceding months. Diphtheria also was less prevalent than it had been in the preceding month; the greatest proportional prevalence of this disease was recorded in St. Pancras, Finsbury, Greenwich, Lewisham, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals, which had been 1191, 1129, and 1045 at the end of the three preceding months, had further declined to 982 at the end of last month; the weekly admissions averaged 103, against 134, 137, and 122 in the three preceding months. The prevalence of enteric fever showed a slight decrease as compared with the previous month; this disease was proportionally most prevalent in Stoke Newington, Shoreditch, Bethnal Green, Bermondsey, Lambeth, and Greenwich. There were 43 enteric fever patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 49, 64, and 52 at the end of the three preceding months; the weekly admissions averaged 7, against 10 and 7 in the two preceding months. Erysipelas was proportionally most prevalent in Hackney, Finsbury, Shoreditch, Bethnal Green, Southwark, and Deptford. The 16 cases of puerperal fever notified during the month included 3 in Shoreditch and 2 each in Paddington, Hackney, and Battersea. The 11 cases of cerebro-spinal meningitis included 2 in Islington and 2 in Lambeth; and the 5 cases of poliomyelitis belonged respectively to Paddington, Hackney, Southwark, Bermondsey, and Lambeth.

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex- and age-constitution of the populations of the several boroughs. During the four weeks ending April 27th the deaths of 4701 London residents were registered, equal to an annual rate of 14·3 per 1000 of the population. The death-rates last month ranged from 10·1 in Wandsworth, 10 6 in Lewisham, 10 8 in the City of London, 11·2 in Battersea, 11 8 in Hackney, 12·5 in Hampstead, and 12·6 in Paddington and in Holborn, to 16·1 in St. Pancras, 17·8 in Poplar, 18·4 in Bermondsey, 19 5 in Southwark, and 19 6 in Finsbury. The 4701 deaths from all causes included 334 which were referred to the principal infectious diseases; of these, 104 resulted from measles, 8 from scarlet fever, 31 from diphtheria, 135 from whooping-cough, 6 from enteric fever, and 50 from diarrhœa and enteritis among children under 2 years of age. No death from any of these diseases was recorded last month in the City of London or in Stoke Newington; among the other boroughs they caused the lowest death-rates in Paddington, Hammersmith, Hampstead, and Holborn; and the highest rates in Fulham, St. Pancras, Shoreditch, Southwark, Bermondsey, and Woolwich. The 104 deaths from measles showed a decline of 148 from the corrected average number in the corresponding period

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING APRIL, 1912.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1912.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.‡								Deaths from all causes.	Death-rate per 1000 living.†
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON...	4,519,754	—	555	461	—	39	—	16	268	11	5	1356	3·9	—	104	8	31	125	6	50	334	1·0	4701	14·3
West Districts.																								
Paddington	142,362	—	15	17	—	1	—	2	9	—	1	45	4·1	—	1	—	—	—	—	2	3	0·3	129	12·6
Kensington	171,746	—	17	17	—	—	—	—	3	—	—	37	2·8	—	2	—	1	1	—	2	6	0·5	177	14·4
Hammersmith	122,750	—	14	11	—	—	—	1	7	1	—	34	3·6	—	—	—	1	—	—	—	1	0·1	128	14·2
Fulham	155,402	—	20	16	—	—	—	1	5	—	—	42	3·5	—	11	—	1	8	—	3	23	1·9	169	14·9
Chelsea	65,397	—	11	8	—	—	—	—	4	—	—	23	4·6	—	—	—	1	5	—	—	6	1·2	72	14·9
City of Westminster	157,248	—	14	7	—	1	—	—	11	—	—	33	2·7	—	6	—	2	2	—	1	11	0·9	147	13·7
North Districts.																								
St. Marylebone	116,155	—	13	7	—	—	—	1	8	—	—	29	3·3	—	—	—	1	3	—	—	4	0·4	123	14·7
Hampstead	85,966	—	5	9	—	—	—	—	2	1	—	17	2·6	—	—	—	1	—	—	—	1	0·2	73	12·5
St. Pancras	216,145	—	32	40	—	3	—	1	10	—	—	86	5·2	—	14	2	1	4	1	3	25	1·5	256	16·1
Islington	326,398	—	45	38	—	5	—	—	9	2	—	99	4·0	—	4	—	2	8	1	7	22	0·9	358	14·9
Stoke Newington...	50,581	—	2	6	—	2	—	—	3	—	—	13	3·4	—	—	—	—	—	—	—	—	—	48	12·9
Hackney	222,986	—	18	24	—	3	—	2	19	1	1	68	4·0	—	1	1	1	3	—	1	7	0·4	194	11·8
Central Districts.																								
Holborn	48,026	—	4	3	—	1	—	—	2	—	—	10	2·7	—	—	—	—	1	—	—	1	0·3	43	12·6
Finsbury	86,130	—	6	15	—	1	—	—	11	—	—	33	5·0	—	—	—	2	5	—	—	7	1·1	125	19·6
City of London	18,695	—	3	1	—	—	—	—	—	—	—	4	2·8	—	—	—	—	—	—	—	—	—	14	10·8
East Districts.																								
Shoreditch	110,430	—	10	4	—	2	—	3	13	1	—	33	3·9	—	—	—	1	11	—	1	13	1·5	159	15·9
Bethnal Green	127,985	—	16	16	—	2	—	—	13	1	—	48	4·9	—	2	—	—	6	—	2	10	1·0	154	15·9
Stepney	277,315	—	29	26	—	3	—	—	18	—	—	76	3·6	—	4	1	1	14	1	6	27	1·3	318	15·6
Poplar	161,597	—	15	13	—	—	—	—	6	—	—	34	2·7	—	—	—	1	10	—	3	14	1·1	214	17·8
South Districts.																								
Southwark	190,017	—	20	13	—	1	—	—	21	—	1	66	4·5	—	23	—	1	9	1	4	38	2·6	272	19·5
Bermondsey	125,260	—	32	13	—	2	—	—	9	—	1	57	5·9	—	11	—	2	7	—	2	22	2·3	173	18·4
Lambeth	297,550	—	20	22	—	5	—	1	18	2	1	69	3·0	—	6	—	1	5	—	5	17	0·7	294	13·3
Battersea...	167,589	—	11	15	—	—	—	2	12	1	—	41	3·2	—	—	1	1	—	—	3	5	0·4	134	11·2
Wandsworth	321,881	—	47	26	—	3	—	1	14	—	—	91	3·7	—	1	1	3	8	1	2	16	0·6	238	10·1
Camberwell	261,591	—	33	16	—	1	—	—	16	1	—	67	3·3	—	10	—	2	4	—	1	17	0·8	233	12·0
Deptford	109,377	—	16	7	—	—	—	1	12	—	—	36	4·3	—	1	—	1	7	—	—	9	1·1	123	15·5
Greenwich	96,904	—	27	22	—	2	—	—	3	—	—	54	7·3	—	—	1	1	2	—	2	6	0·8	102	14·2
Lewisham	165,249	—	28	31	—	—	—	—	4	—	—	63	5·0	—	—	—	2	5	1	—	8	0·6	129	10·6
Woolwich...	121,932	—	22	18	—	1	—	—	6	—	—	47	5·0	—	7	1	—	7	—	—	15	1·6	122	15·1
Port of London	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard. ‡ Deaths from "typhus fever" and "other continued fevers" are not now distinguished in the Registrar-General's weekly returns; these two columns are therefore omitted from the Table.

of the five preceding years; this disease was proportionally most fatal last month in Fulham, St. Pancras, the City of Westminster, Southwark, Bermondsey, Camberwell, and Woolwich. The 8 fatal cases of scarlet fever were 21 fewer than the corrected average number, and included 2 in St. Pancras. The 31 deaths from diphtheria were 15 below the corrected average number, and included 3 in Wandsworth and 2 each in the City of Westminster, Islington, Finsbury, Bermondsey, Camberwell, and Lewisham. The 135 fatal cases of whooping-cough showed a decline of 39 from the corrected average number; the greatest mortality from this disease occurred in Chelsea, Finsbury, Shoreditch, Poplar, and Deptford. The 6 deaths from enteric fever were 5 below the average, and belonged respectively to St. Pancras, Islington, Stepney, Southwark, Wandsworth, and Lewisham. The mortality from diarrhœa and enteritis among children under two years of age was proportionally greatest in Fulham, Islington, Stepney, Southwark, and Greenwich. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases (excluding diarrhœa) was 45·5 per cent. below the average.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council of April 1st, 1881, Surgeon Frank Reginald Featherstone has been allowed to withdraw from his Majesty's Naval Service with a gratuity.

Surgeon Frederick George Wilson has been promoted to the rank of Staff-Surgeon in his Majesty's Fleet.

The following appointments have been notified:—Staff-Surgeons: W. P. Walker to the *Pelorus* on completing; W. R. Harrison to R.M. Depôt, Deal; and J. O'Hea to the *Sapphire*. Surgeon: J. S. Austin, lent to Physical Training School, and to the *Victory*, additional.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel John V. Salvage retires on retired pay (dated May 15th, 1912).

The undermentioned Captains to be Majors (dated May 14th, 1912):—Charles E. Fleming, Percy S. Lelean, and John T. Johnson.

Captain Dudley S. Skelton is seconded for service under the Foreign Office (dated April 25th, 1912).

Lieutenant Benjamin Biggar is confirmed in his rank.

Major Howard Ensor, D.S.O., from the seconded list, is restored to the establishment (dated May 2nd, 1912).

Surgeon-General J. G. MacNeece, C.B., principal medical officer of the Sixth (Poona) Division in India, on transfer to the Home Establishment, has been appointed Deputy Director of Medical Services in the Southern Command.

Lieutenant-Colonel F. R. Newland, deputy assistant-director of medical services in the Northern Command, has been placed under orders for service abroad during the coming trooping season. Lieutenant-Colonel F. J. Morgan, commanding the Station Hospital at Barrackpore, has arrived home on eight months' combined leave of absence. Lieutenant-Colonel C. Birt has been transferred from the Irish Command to the London District. Lieutenant-Colonel C. A. Lane has left Hounslow for a tour of duty in India. Lieutenant-Colonel A. P. Blenkinsop has been selected for appointment as Assistant-Director of Medical Services at Army Headquarters, Simla, in succession to Brevet-Colonel R. S. F. Henderson, honorary surgeon to His Majesty the King. Lieutenant-Colonel A. E. Tate, commanding the Station Hospital at Rawal Pindi, has been appointed an Honorary Surgeon to H. E. the Viceroy and Governor-General of India.

Major C. W. Reilly, on completion of a tour of service at Dum Dum, has been appointed for duty in the Cork District. Major N. Marder has been transferred from Portland to the Royal Victoria Hospital, Netley. Major B. S. Bartlett has joined the Station Hospital at Lahore for duty. An exchange of places on the roster for service abroad has been approved by the Director-General between Major S. O. Hall in charge of the Military Families' Hospital at Fermoy, and Major T. Biggam in charge of the Reception Hospital at Bordon. Major R. C. Lewis has been placed under orders for service abroad during the coming trooping season. Major J. Tobin has embarked for a tour of duty at Gibraltar. Major H. N. Dunn has taken over charge of the Surgical Division at the Royal Victoria Hospital, Netley. Major W. H. S. Nickerson, V.C., has been selected for appointment as Specialist Sanitary Officer to the Second (Rawal Pindi) Division of the Northern Army in India, in succession to Major J. McD. McCarthy, resigned. Major W. B. Fry has taken up duty as Clinical Pathologist at the Royal Herbert Hospital, Woolwich. Major C. F. Wanhill has joined the Station Hospital at Mhow for duty.

Captain A. E. F. Hastings, on arrival home tour expired from India, has been appointed to the Eastern Command. Captain R. C. Wilson, specialist in otology and laryngology, has embarked for a tour of duty at Gibraltar. Captain A. J. Williamson has taken up duty at Singapore as specialist in operative surgery. Captain H. Rogers has embarked for a tour of duty in Malta. Captain G. A. K. H. Reed, commanding "A" Company Royal Army Medical Corps at the Depôt, Aldershot, has been placed under orders for service abroad during the coming trooping season. Captain M. J. Cromie has been transferred from the Curragh to Kilbride Camp. Captain R. F. M. Fawcett on arrival in India has been appointed to the Station Hospital at Jhansi. Captain G. G. Tabuteau has joined for duty in the Irish Command. Captain D. B. McGrigor has been transferred from Karachi to the Station Hospital at Meerut. Captain C. W. Holden has been selected to attend the next promotion course at the Royal Army Medical College. Captain J. B. Hanafin has been granted six months' leave of absence home from India. Captain F. Casement has been appointed Specialist in Dermatology and Venereal Diseases to the Seventh (Meerut) Division.

INDIAN MEDICAL SERVICE.

Colonel R. Neil Campbell has been selected for appointment as Inspector-General of Civil Hospitals under the Administration of Assam. Lieutenant-Colonel H. B. Melville has arrived home on leave of absence from India. Lieutenant-Colonel J. Chaytor-White, Sanitary Commissioner in the United Provinces of Agra and Oudh, has been granted an extension of leave for three months on the recommendation of a medical board.

Major E. J. O'Meara, civil surgeon, on completion of special duty, has been appointed to Agra. Major J. Stephenson, professor of biology at the Government Medical College, Lahore, has been granted four months' leave of absence. H.E. the Governor of Bombay in Council has been pleased to appoint Major A. Hooton to be a Civil Surgeon of the First Class, in succession to Lieutenant-Colonel B. B. Grayfoot. Major H. Austen Smith has been selected to succeed Lieutenant-Colonel H. B. Melville as Civil Surgeon at Simla East.

Captain W. P. G. Williams has been appointed to officiate as Superintendent of the Central Jail at Bareilly, vice Major C. B. Prall, granted leave. Captain E. P. Mackie has relinquished charge of the civil medical duties in the Bijnor district. Captain F. W. Sumner has been appointed a Civil Surgeon of the Second Class. Captain A. Gill has taken up duty as Deputy Sanitary Commissioner in the Punjab. Captain N. W. Mackworth has passed the examination in the Bengali language by the colloquial test. Captain M. Corry has been appointed Civil Surgeon at Multan. Captain C. A. Sprawson has taken over charge of the Lucknow Central Prison during the absence on privilege leave of Captain L. M. Macrae. Captain J. W. Little, Bengal Presidency, has been granted one month extension of his leave of absence. Captain H. W. Illius, civil surgeon, on return from leave has been appointed to Jhansi for duty. Captain H. Dutton has been transferred from special duty at Calcutta, to the Shahabad district for employment in connexion with plague prevention. Captain H. Falk has been appointed a Specialist in the Prevention of Disease and placed in charge of the Bacteriological Research Laboratory at the brigade headquarters, Abbotabad. Captain H. B. Scott, special plague medical officer in the Sagaing and Meiktila Divisions, has been granted three months' privilege leave of absence.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned Lieutenants are confirmed in their rank:—William M. Biden, Gilbert M. Graham, and John W. Gray.

Lieutenant Robert H. Nolan is seconded for service under the Colonial Office (dated Jan. 15th, 1912).

TERRITORIAL FORCE.

Army Medical Service.

Colonel John S. Riddell, M.V.O., on vacating the appointment of Assistant Director of Medical Services of the Highland Territorial Division, resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated April 1st, 1912).

Royal Army Medical Corps.

3rd Welsh Field Ambulance, Royal Army Medical Corps: Major George A. Stephens resigns his commission (dated May 15th, 1912). Hamilton Ernest Quick to be Lieutenant (dated May 15th, 1912).

5th London Field Ambulance, Royal Army Medical Corps; Lieutenant-Colonel and Honorary Colonel Charles H. Hartt resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated May 18th, 1912). Major Ernest B. Dowsett to be Lieutenant-Colonel (dated May 18th, 1912).

3rd London General Hospital, Royal Army Medical Corps: Major William Pasteur to be Lieutenant-Colonel (dated Feb. 21st, 1912).

The undermentioned officers to be Majors: Captain Bilton Pollard and Captain Walter E. Wynter (dated Feb. 21st, 1912). Herbert Campbell Thomson to be Captain (dated March 25th, 1912).

For Attachment to Units other than Medical Units — Thomas William Hardwicke Downes to be Lieutenant (dated April 13th, 1912).

SIR DAVID BRUCE, C.B.

Sir David Bruce has been specially promoted to the rank of surgeon-general by the King in consideration of his eminent services in the cause of science.

THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA.

Since the death of Colonel Leslie, some months ago, the dual posts of Director-General of the Indian Medical Service and Sanitary Commissioner with the Government of India have been held by Surgeon-General Sir Charles Lukis. It has now been decided to revive the latter appointment, and Major Robertson, I.M.S., Acting Sanitary Commissioner in the United Provinces, has been selected for the post. He will serve under the Department of Education and in coördination with the Director-General of the Indian Medical Service. The conditions of service have been marked out and will shortly be published.

MEDICAL SOCIETY OF LONDON.—At a meeting held on May 20th, Dr. J. Mitchell Bruce, the President, being in the chair, Mr. J. Bland Sutton delivered the annual oration, taking as his subject "Fertilisation in Relation to Pathology." This is published in this issue of THE LANCET (p. 1387). The Right Hon. the Lord Mayor of London attended, and having been elected an Honorary Fellow by acclamation was duly admitted and signed the roll. In thanking the Fellows for the honour they had done him he said that he had hesitated at first to accept the position of chief magistrate of the City of London because of his advanced age, but when on looking over the names of his predecessors in the office he had failed to find that of a single medical man, he had felt it to be his duty. After the conclusion of the business of the meeting the customary conversazione was held. Not the least interesting part of the entertainment was provided by the exhibition of several of the literary treasures, of which the society is justly proud. Perhaps the most noteworthy of these were a copy of Servetus, who so nearly anticipated Harvey's discovery of the circulation of the blood, but whose researches were cut short by Calvin, at whose instigation he was burnt at the stake, and the diary of the vicar of Stratford-on-Avon, wherein is the only authentic record of Shakespeare's death. Mr. G. Bethell, the registrar, exhibited some old prints chiefly relating to the founder of the society, Dr. Lettsom, and its great benefactor, Dr. Fothergill. 180 Fellows attended, the largest number for many years.

Correspondence.

"Audi alteram partem."

ANGINA ABDOMINIS.

To the Editor of THE LANCET.

SIR,—I was much interested in reading the paper by Sir Lauder Brunton and Mr. W. E. Williams in your issue of April 6th, and also a subsequent letter on this subject. Sir Lauder Brunton inclines to give priority in description and nomenclature to an Italian in 1902, but in one of the most interesting books I know, "Common Neuroses," by Goodhart (1894), one finds the following (p. 88): "I have suggested, too, that in the crises of tabes dorsalis and diabetes there are instances of severe abdominal neuralgia to which this thoracic crisis or angina is in many respects comparable." On p. 118 Goodhart again refers "to the subject of stomach-ache and abdominal neuralgia of which I have notes of several interesting cases." "There is assuredly a severe form of neurosis of the abdominal nerves, sometimes starting in the stomach, sometimes in the intestine, great or small, and many times owning a uterine or pelvic cause." Personally, I remember some years ago, a patient of mine who was greatly troubled with this abdominal neuralgia associated with glycosuria. He benefited by courses of hypodermic injections of arsenate of strychnine. Lately I prescribed the tabella trinitrini co. to a patient with abdominal crises, which were invariably brought on by walking, especially after a meal, and he has derived great benefit.

I am, Sir, yours faithfully,

J. CHRISTIAN SIMPSON, M.D. Edin.

Cambridge, May 18th, 1912.

THE ORGANISATION OF AN ANTI-TUBERCULOSIS CRUSADE.

To the Editor of THE LANCET.

SIR,—Dr. R. A. Lyster, in the valuable article he contributes on the above subject in your issue of May 4th, makes the somewhat startling statement that the consumptive patient should come to the medical officer, not *vice versâ*. I wonder if he remembers Hilton's classic on the doctrine of "Rest." Those of us who have been studying for some time the case for tuberculin therapy soon find out that in many cases long and tiring journeys to and from the tuberculin dispensary may cause irregular auto-inoculations of the patient and end in disaster. In such cases the injection of tuberculin may lead to what we call a condition of "over-sensitiveness," and the injected tuberculin, added to the increased dose of the patient's own bacterial products produced by over-exertion, will do harm instead of good. The methods applicable to densely populated centres will not do for the rural districts, where there must be established branch dispensaries under the control of an itinerant tuberculosis officer. They will doubtless cost a good deal more money than urban dispensaries, but economy is not the first consideration.

I am, Sir, yours faithfully,

Chelsea, May 16th, 1912. J. PIRIE, M.D. Aberd.

MERCURIO'S OR WALCHER'S POSITION.

To the Editor of THE LANCET.

SIR,—In to-day's issue of THE LANCET, in a notice of Dr. Edward P. Davis's "Operative Obstetrics," your reviewer writes:—"We notice one interesting slip. The author speaks of the position of Mercurio or Walcher. Mercurio's position, designed for the delivery of very fat women, is, however, quite different from that of Walcher. It was illustrated first in his book published in 1642." Dr. Davis is quite right in speaking of the position of Mercurio or Walcher, and your reviewer in trying to correct him has slipped twice himself. The "hanging legs" or "Walcher" position was described and illustrated by Mercurio over 300 years ago. He also described and illustrated a position (to which your reviewer refers) for very fat women—a kneeling position with the body strongly recurved, which Osiander said

the most practised contortionist, if pregnant, could hardly sustain for a quarter of an hour.

These positions were illustrated first in "La Comare," published in 1596, not 1642, as stated by your reviewer.

I am, Sir, yours faithfully,

Harley-street, W., May 18th, 1912. HERBERT R. SPENCER.

FIRST-COUSIN MARRIAGES.

To the Editor of THE LANCET.

SIR,—May I trespass upon your space to ask your readers for any information they may possess as to *first*-cousin marriages? The information I require is: 1. Whether the contracting parties are themselves the offspring of (*a*) two brothers or two sisters; (*b*) a brother and sister respectively. 2. The physique and intelligence of the children of such cousin marriages.

I shall be greatly obliged for any information upon these points that may be sent me before the end of June.

I am, Sir, yours faithfully,

MACLEOD YEARSLEY.

98, Queen Anne-street, W., May 15th, 1912.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—Of all the suggested solutions of this complicated problem the only one which appears to me likely to satisfy the profession generally is that the sum allotted for medical benefit should be handed over to each insured person, leaving it open to him to make his own arrangements for professional attendance. If he prefers to be attended on contract terms he will surely find some practitioner in his neighbourhood willing to oblige him; while those of us who favour the system of a definite fee for each visit or consultation will still be free to carry on our practices on our present lines, graduating our fees, as we always do, according to our patients' ability to pay them. If the sum allotted by the State to each insured person be insufficient to provide him with a year's attendance, under contract or otherwise, let him pay the balance out of his own pocket. In either case, he will be no worse off than he is now; better, in fact, to the amount of 6*s.*, or whatever the allotted sum may be.

The figures quoted by Dr. Francis Villy, in his letter in your issue of May 18th, are very suggestive. They seem to give us some indication of what we may expect if we allow ourselves to be tied hand and foot to the Chancellor's scheme. Dr. Villy suggests 1500 patients as the number required by each practitioner to provide him with the living wage, if I may so call it, of £500 a year, assuming the capitation fee to be 6*s.* 6*d.* But if 1500 patients were insured in this way, and knew that they could obtain unlimited medical attendance simply by asking for it, we may depend upon it that they would take full advantage of their privilege. I think I am within the mark when I say that at least a third of them would be on the practitioner's list every day for some ailment, real or imaginary. Now, Sir, I ask you, how could any man honestly pretend to give adequate attention to 500 patients in one day? And if he did succeed in getting through such a list, what time or energy would he have left for such of his patients as did not come under the operation of the Act?

I am, Sir, yours faithfully,

T. R. HENDERSON, M.B., C.M. Edin.

Balham, S.W., May 19th, 1912.

To the Editor of THE LANCET.

SIR,—With your permission I would draw attention to a part of Mr. Lloyd George's speech in the second reading debate on the Welsh Disestablishment Bill:—

> "The people never send for medical aid for petty ailments. The doctor is not summoned even for important family events. He is only called in when life is in jeopardy, and here in these districts you have 50 square miles without a doctor. Ask people who have lived on a wayside farm in those districts, or in the villages in the valleys, and they will tell you one of the most vivid memories of their youth is being waked in the dead of night by the clatter of a horse ridden furiously past in the dark, from which everybody knew there was a dire struggle for life going on in the hills."

This is, indeed, a true and terrible picture of the dearth of medical assistance in certain parts of Mr. Lloyd George's native land. The doctor is only called in "*when life is in jeopardy*"! *Only one doctor for 50 square miles!* What is the National Insurance Act going to do to remedy this grave state of things in Wales? It is to be presumed that some of the insured will be found in "these mountain regions," where, "before you reach the high road, there are miles of track, broken and rutted by the winter rains." Are they to be debarred from sending for the doctor unless life is in jeopardy? It is preposterous to suppose that for a capitation fee of 8*s.* 6*d.*, or even 10*s.*, proper medical attendance could be given to insured persons living under the conditions Mr. Lloyd George so aptly describes. But it would be thought that under a true national insurance scheme the dwellers in such parts of the kingdom would have the same right to medical benefit as in other districts. Under the Vaccination Acts there is much greater latitude with regard to fees payable in different parts of the country. The public vaccinator might get in such districts 15*s.* per case when his brethren elsewhere might have to be satisfied with a modest half-crown. The National Insurance Act makes no such allowance. If the limit of 6*s.* a head is exceeded, nothing more is attainable without a special grant by Parliament, or the consent of the County Council to pay half of any extra sum demanded. It is true, there has been expressed a view in high quarters that if a dole of 6*s.* is handed to the insured in the name of "medical benefit" the provisions of the Act are sufficiently complied with. This may be technically correct, but when we contemplate the fact that the insured, the employers, and the State are *compelled* to contribute to what is styled "medical benefit," and the result is a gratuity of 6*s.* to be employed somehow in obtaining medical attendance in sickness, we are forcibly reminded of the classical adage, *Parturiunt montes, nascetur ridiculus mus!*

I am, Sir, yours faithfully,

May 20th, 1912. MAJOR GREENWOOD.

To the Editor of THE LANCET.

SIR,—The following result of our canvass in the borough of Lewisham may help to encourage other districts to do likewise:—

Number of practitioners resident in the borough		147
,, ,,	in actual practice	104
,, ,,	not practising, retired, or holding resident hospital posts or public appointments	43
,, ,,	engaged in contract practice ...	49
,, ,,	who have signed resignations ..	47
,, ,,	,, ,, B.M.A. pledge	106
,, ,,	made up (1) by those in actual practice	99
,, ,,	,, (2) by those in hospital or public posts ...	7

The two gentlemen who have not handed in their resignations have signed the B.M.A. undertaking. Of the five gentlemen in actual practice who have not signed the B.M.A. pledge, three have signed the B.M.A. undertaking. Only two refuse to sign anything, one of whom, though resident in the borough, practises chiefly outside.

I am, Sir, yours faithfully,

EDGAR DU CANE,
Hon. Secretary Lewisham Provisional Medical Committee.

May 15th, 1912.

To the Editor of THE LANCET.

SIR,—It is now evident that the medical profession realises that it must consider a constructive policy and not merely—that which has been its duty since the introduction of the National Insurance Act—a destructive policy. No doubt we in the medical profession all realise now that the old order is changing, giving place to new, and that we not only cannot go on as previously, but that the old system, or want of system, has become a worn-out garment, however fresh and good and desirable it was at first and in our fathers' time.

In a pamphlet sent to me by Dr. R. R. Rentoul, of Liverpool, he states: "People are asking, Can doctors cease their clamorous protests and tell us definitely what they will and will not accept? They ask, Why are doctors so disastrously cut up by petty jealousies that they cannot combine to form a constructive force, when even scavengers and dock labourers can combine?"

Realising that we have to consider the changed times we

live in, and that we must march forward, we must set about constructive work. If we do not like the present Insurance Act, and refuse to consider constructive work, it will be done for us. Fortunately for us, the Commissioners are allowed large powers, so that it is possible for them to consider a constructive policy of the medical profession, applying it at first to those who come under the present Insurance Act, and later, when by trial it has been found efficient, extending it, no doubt by an amending Act, to the whole nation. However, as Tennyson says, "Science moves but slowly, slowly, creeping on from point to point," and this, alas, is too true with regard to the application of real scientific reforms in the matter of the national health.

Still we must not be discouraged. What we require to combine us in the profession is a constructive policy. What we require to gain the sympathy and ear of the public, and which we appear to have lost, is some constructive scheme which will show that we have really at heart the national health for which we as a body exist. What we require is a broad outlook on the problem before us, and to inaugurate freely of our own accord a service for the public we serve, which shall be in the true sense of those words a National Medical Service. Such a national service should embody the following seven broad principles:—

1. The medical profession shall be made a branch of the Civil Service with salaries ranging from £400 to £1000 per annum, the cost of such service being met by a graduated income-tax extending to the humblest worker.

2. Every medical man should be placed on that service and there should be one State examination to fit him for that service.

3 Every householder or lodger already in or coming into a neighbourhood should be required to put his name down to the medical man of his choice.

4. Such medical man's duty should be to call on and to see such household, to note where constitutional tendencies to certain complaints exist, and where medical or surgical assistance is needed, and thus his duty should be the prevention of diseases and the maintenance of the health of his patients.

5 Each medical man should be allowed only a certain number of patients or households, say 300 to 500, and as soon as the number is made up for one doctor then the householders should be required to choose one of the others.

6. Each medical man newly starting should be drafted to a place where his services are required, or he should be able to take up his stand where there is a vacant place.

7. There should be a central depôt for instruments, books, serums, &c., and even a cottage hospital—thus saving enormous individual expenses to the medical man. This central depôt should be in the nature of (*a*) a cottage hospital; (*b*) a centre of scientific work in the locality; (*c*) a nursing home; (*d*) a board or meeting room for doctors; and (*e*) a medical library; the doctors in the neighbourhood constituting the committee thereof.

A National Medical Service thus broadly outlined here would have great advantages considered both from the ethical standpoint and the scientific standpoint. With regard to the first, the members of the medical profession would be saved from the stigma of degrading expediencies to increase their incomes. The public are not blind in these days and are well aware why advertising is done, and thus the profession is lowered in its eyes. Considered from the scientific standpoint there can be no question as to the value of this National Medical Service, for under it our profession would stand in the first place for the "prevention" of disease, and not, as now, merely for the curing or alleviating of disease.

How early in our student days are we taught that the duties of a doctor are threefold—first, preventive; second, curative; third, palliative, for the alleviation of suffering! But we have not been in practice a year before we realise that the first duty of all—namely, prevention—is practically out of our power, except in a very narrow interpretation. Again, there is the grave temptation where such "preventive means," properly advised, necessitate the loss of a large slice of our income. The wealthy or respectable patient ordered to leave the neighbourhood as one absolutely unfit for his constitution is a case in point. Who of us has not suffered in such ways? Let us face these facts and remedy the faults of our present system, or want of system, by inaugurating and combining together for a National Medical Service. I have been told that thousands of overworked and underpaid general practitioners would welcome such a scheme.

Dr. Rentoul, in the pamphlet I have quoted from, states:—"In 1889 I proposed the formation of a Public Medical Service. The doctors refused it, because they thought it would affect their money interests. But had they accepted it we would not now be like mendicants with bended knee, waiting for charity rates of pay to be offered to us by politicians." How much medical opinion has changed since then is shown by the fact that at a meeting of the Manchester South Division of the British Medical Association the above outline scheme of a National Medical Service was passed by a majority.

I am, Sir, yours faithfully,

Didsbury, May 15th, 1912. MILSON RUSSEN RHODES.

To the Editor of THE LANCET.

SIR,—Although the question of the terms and conditions under which the medical profession is to accept service under the National Insurance Act is of engrossing interest, there are certain other points which should not be lost sight of, as they are of the greatest importance if the medical working of the Act is to be without friction and if the Act itself is to be successful financially. The Insurance Fund will have to be protected against bogus or exaggerated claims and from the wiles of malingerers, and although there are penal clauses in the Act no machinery is provided for the detection of fraud.

The Insurance Commissioners have very wide powers with regard to the making of regulations for the proper working of the Act, and this question will no doubt be dealt with. I think, however, that the profession should consider the matter and be ready to suggest a course which would be acceptable to all. Every insurance manager knows that the claims under the Workmen's Compensation Act, 1906, could be reasonably and fairly dealt with at about half the present cost if it were not for the exaggeration and absolute malingering which continually takes place. It is frequently found to be cheaper to settle a fraudulent claim than to go to the expense of defending an action which, if the action is won, is impossible to be recovered form the claimant.

The Workmen's Compensation Act gives no protection to either an employer or insurance company, but as it is essential that the National Insurance Fund should be protected, no doubt claims will not be admitted without an initial certificate from the medical man in attendance. Also certificates will be required of continued disability, and when in the opinion of the medical attendant his patient has recovered a certificate of capacity for work will be necessary. In many cases, no matter what may be the status or capability of the medical attendant, there will be, as at present in the case of club practice, objections made to the certificates by either the approved society or by the claimant. In view of this there will have to be a right of appeal, and a question arises which intimately concerns the profession—namely, whether the appeal should be to a single medical referee or to a small Local Medical Board composed of practitioners not working otherwise under the Act, or whether the appeal should be in the first instance to a medical referee with a further right of appeal to a Medical Board of authority having the confidence of the district. The employment of a single medical referee would no doubt save time and expense, and in the majority of cases would give satisfaction, but many will think that the examinations of the medical referee should be made in consultation with the medical attendant in accordance with the ethics of the profession, and how this is to be arranged without undue expense to the Insurance Fund or unpaid-for trouble to the medical attendant is a question which will require much consideration.

There is another very important point for which I cannot find any provision in the Act—that is, the necessity as to the enforcement of submission to medical treatment and if necessary to operation. It is quite clear that no medical man could accept responsibility if his advice is not carried out, and the Insurance Fund would certainly suffer if disability was prolonged through the neglect of a claimant to follow the instructions of his medical attendant. Whether the Commissioners have power to make regulations as to this, with a penalty such as loss of benefit in cases of failure to follow medical advice, is a matter for their consideration, but if not

they should, I think, obtain this power before the practical working of the Act commences.

I am, Sir, yours faithfully,

ALBERT BENTHALL.

South Hampstead, N.W., May 20th, 1912.

To the Editor of THE LANCET.

SIR,—As several public speeches have been delivered lately wherein it has been authoritatively stated that medical men need not take contract work unless they wish, the funds set apart for supplying medical benefit in any district being placed in a pool against which the doctors can draw in proportion to their accounts against the insured; and, further, as this statement seems to have obtained credence among many medical men, may I be permitted to point out gently, but firmly, that not only is no such system of pooling definitely laid down by the Act, but that it may be by no means easy to obtain it in actual practice? If I am wrong no doubt I shall be corrected.

There are three places in which the possibility seems to be hinted at: (1) The wide discretionary powers given to the Insurance Commissioners by Cl. 78; (2) the terminal proviso of Cl. 15, Sect. 2, by which the Commissioners have power to rearrange medical benefit, but this is only in case of an inadequate panel being formed; and (3) Cl. 15, Sect. 3, which reads—

> The regulations made by the Insurance Commissioners shall authorise the Insurance Committee by which medical benefit is administered ..... to allow any ..... persons, in lieu of receiving medical benefit under such arrangement as aforesaid, to make their own arrangements for receiving medical attendance ..... and in such case the Committee shall, subject to the regulations, contribute from the funds out of which medical benefit is payable towards the cost of medical attendance ..... for such persons sums not exceeding in the aggregate the amounts which the Committee would otherwise have expended in providing medical benefit for them.

Now note:—(*a*) The committee is not at all bound to allow any such arrangement as is here mentioned. (*b*) If the arrangement is made it is at the request of the insured. That is to say, doctors have no voice in the matter (except as offering advice, perhaps, through the medical committee?) except in so far as they can influence their own patients by persuasion or coerce the public by trades union methods. (*c*) It is obviously but very little good for only a certain number of medical men in a district to work under such arrangement, for it will be either more or less popular than contract work and the tendency will be for it to injure either its exponents or the contract practitioners. (*d*) The wording is so vague that to what extent it can be made to cover a real pooling of the funds seems very doubtful. Perhaps Cl. 78 will be useful to the Commissioners in this respect. My object in writing this letter is to point out to the profession generally that even here, where everything is said to have been granted in full, the fight is by no means over yet.

I am, Sir, yours faithfully,

Keighley, May 18th, 1912. FRANCIS VILLY.

A GERMAN SICK-CLUB DOCTOR'S CONTRACT.

(FROM A CORRESPONDENT)

IN view of the proposal to establish a public medical service scheme as a means of giving effect to the medical benefit portion of the Insurance Act, an illustration of the arrangements entered into between a German sick club and the medical practitioners attending its members may prove of interest. The following notes are extracted from the form of contract in actual use in one important sick club, and may be taken to be fairly representative of the conditions regulating club practice in Germany.

A limited free choice of doctor is permitted, and is effected on the following basis. Annually, before July 1st, each person insured selects from the list of available doctors, in this case seven, the doctor he wishes to attend him, should occasion arise, for the ensuing 12 months. During this period either party may apply to the board for a fresh choice, but only once, and this change may only take effect on the following 1st of January; application must be made to the board of the club before Dec. 20th.

Each club doctor is compelled to undertake the treatment of those insured members who have selected him as their medical attendant, and also to render assistance at births when the midwife considers his aid to be required. Only the simplest remedies are to be prescribed, so far as this can be done without prejudice to the patient; other remedies are only to be used when absolutely necessary. These include the prescribing of spectacles, trusses, and irrigators, and not more than 12 baths, or three steam baths, during the same illness. If further remedies seem indicated the consent of the board must first be obtained; this applies especially to prescriptions calling for wine, brandy, meat extract, cocoa, and tonics.

"Patients whose condition permits them to go out are to visit the doctor during his consulting hours, from 2 to 3 P.M.; on Sundays and holidays from 8 to 9 A.M., and then only in cases of urgency. If the patient is unable to attend at the doctor's house, he is required to notify the doctor before 8 A.M. during the summer months, at 9.30 A.M. during the winter months, requesting his attendance at his own dwelling. In urgent cases the doctor is required to extend his aid immediately by day or night. If the doctor considers it necessary to hand over the case to a specialist, notice should first be given to the board, except in urgent cases. If the illness of the patient renders him unfit for work the doctor has to fill up a form, stating the nature of the complaint in German, as far as this is possible, giving the date of the commencement of the illness, and also the date on which he certifies the patient to be again fit for resuming his work. If the patient is allowed to take exercise outdoors the hours fixed for this purpose must also be stated on the form. In the case of longer illnesses this form must be filled in weekly and given to the insured for delivery to the board of the club.

"Malingerers are to be sent immediately to the municipal hospital, as well as all infectious cases, or cases in which a more rapid and cheaper cure can be effected by hospital treatment than by treatment in the patient's home. This applies also to cases in which the doctor is convinced that the patient will be unable to enjoy suitable care at home. Notice must first be given to the board of the doctor's intention to have the patient removed to the hospital, except in urgent cases. The doctor should use the greatest caution before certifying a member unfit for work. So-called anæmic or poor-blooded persons, particularly females, are not to be declared unfit for work unless absolutely necessary. The doctors undertake, as far as possible, to assist in the work of controlling the patients, and to inform the board of any irregularity or attempt at malingering on the part of the insured. They are to safeguard in equal measure the interests of the patients and of the club. The doctors are permitted to attend at all meetings of the board, and it is desirable that they should frequently consult with the latter, especially with regard to severe cases of illness. An insured female is not allowed to return to work within a period of seven weeks following her confinement."

Each doctor in this club receives as remuneration the sum of 3*s* 9*d* annually for every member who has chosen him as his medical attendant; payment is made yearly or every six months as desired. "This sum covers full medical attendance, night visits, night consultations, suturing, operative procedures carried out in the doctor's surgery, and the application of plaster-of-Paris splints. For attendance at a confinement which the midwife is not able to terminate alone, the doctor is entitled to a fee of 10*s*." For night visits between 9 P.M. and 7 A.M. required in urgent cases by members living outside the doctor's district, an extra fee of 3*s*. will be paid. The urgency of the call must be certified by the doctor. The doctors are required to arrange among themselves as regards mutual substitution in the case of absence or illness, or to provide a locum-tenent, in such a way that no extra expense is entailed by the club or its members. "Complaints of members against the doctors, or *vice versâ*, are settled by the board in the presence of the doctor. The contract may be terminated by the board or the doctor after three months' notice."

From the above it is apparent that in this case the remuneration of the doctor works out at a little under a penny a week *per capita* This sum, however, covers purely professional attendance, as a prescription has to be written out for every medicine, surgical appliance, &c., that may be required in the course of treatment. The doctor is provided free of charge with prescription blanks and forms.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

The King to Open the New Buildings of the Bristol Royal Infirmary.

To the general surprise it was announced recently that the committee of the Bristol Royal Infirmary had, after prolonged negotiations, been able to secure a promise from the King to open its new buildings, if these could be made ready by June 28th. His Majesty will come to Bristol after visiting Cardiff on June 26th. The secret had been well kept; even the Lord Mayor and corporation knew nothing of it until a letter from the infirmary president informed them of the arrangement. The new buildings have already been fully described in these columns, so that there is no need to say more than that they are designed to increase the size of the institution from its present capacity of 270 beds to one of 350 or 360 beds, and at the same time to provide modern premises in the place of the present antiquated building, which will be used for offices and other purposes. The scheme was drawn up several years ago, but owing partly to want of funds the work was not actually begun till 1909. When, in 1910, the citizens determined to erect some permanent memorial to King Edward VII. some of the infirmary supporters suggested that their rebuilding scheme should constitute that memorial, but for various reasons this was considered inappropriate, and it was decided to erect a statue of His late Majesty instead. However, the infirmary committee secured King George's permission to call its building the "King Edward VII. Memorial Infirmary," and this inscription already appears on the front block of the new premises. A citizens' meeting was called last week to arrange for the reception of His Majesty, and it is hoped that the requisite sum of £5000 will be collected. There is at present a debt of about £35,000 on the infirmary scheme, but doubtless the King's visit will greatly assist in its reduction.

The Forthcoming Health Conference in Bristol.

As was recently announced in THE LANCET, the Nurses' Social Union is organising a health conference and exhibition to be held at the Victoria Rooms, Bristol, from June 7th to 12th, under the presidency of Dr. D. S. Davies, the medical officer of health. On June 6th the exhibition will be open to nurses and other health workers, but not to the general public. The programme, which is now published, contains a number of items of medical interest. On June 6th Dr. Mary Sturge will lecture on "The Nurse and National Needs," and Mr. Stephen Paget will give a cinematograph lecture on "Natural History, Visible and Invisible, showing Bacteria in Motion." Other lecturers are Dr. J. E. Squire, on the Prevention of Consumption; Dr. W. G. Savage, medical officer of health for Somersetshire, on the Health of the Community; Mr. Arbuthnot Lane, on the Deleterious Effects of Chronic Constipation; Mr. W. R Ackland, on the Care of the Teeth; Dr. Annie Cornall on Mothers and Babies; Professor Lloyd Morgan on the Mind of a Baby; and several others on subjects of general interest. There is also a very interesting list of exhibits.

Death from Easton's Syrup Tablets.

An inquest was held at Burrowbridge, Somerset, on May 17th into the death of a farmer's son, aged 5 years. Evidence showed that the mother of deceased had been taking "Easton's syrup tablets" as a tonic. The child had unfortunately discovered them on the kitchen dresser, and supposing them to be sweets had eaten four of them; he died shortly afterwards with symptoms of strychnine poisoning. It was stated that each tablet contained 1/64th grain of strychnine. Medical evidence showed that death was due to strychnine poisoning, and the jury returned a verdict accordingly.

Death of Dr. Augustus Drake.

Dr. Augustus Drake died at his residence in Exmouth, on May 9th, in his ninety-first year. The deceased was the fourth son of the late Rev. W. Pitt Drake, of West Halton, Lincolnshire. He took his M.B. at Cambridge in 1849, and his Licence in Medicine in 1850. In 1871 he was elected a Fellow of the Royal College of Physicians of London. He at one time had an extensive practice in Exeter, where he resided for many years. He was on the honorary staff of the Royal Devon and Exeter Hospital and also of the Exeter Dispensary, and at the time of his death was honorary consulting physician to both institutions. He leaves two sons and two daughters. Dr. Drake retired from active work about 30 years ago, and had since then resided at Exmouth. The funeral took place at Littleham churchyard, near Exmouth, on May 13th, and was largely attended. Amongst those present were representatives of the committee and honorary medical staff of the Royal Devon and Exeter Hospital and the Exeter Dispensary.

May 20th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Complimentary Dinner to Dr. Byrom Bramwell.

IN view of the completion of Dr. Byrom Bramwell's term of office as a physician to the Edinburgh Royal Infirmary he was entertained at dinner in the hall of the Royal College of Physicians on May 17th, the chair being taken by Sir William Turner, K.C.B. There was a large gathering of the profession from Edinburgh and the surrounding counties, and of representative members of the profession from Glasgow, Dundee, and Newcastle. The toast-list was short, containing only the toasts of "The King" and of "Dr. Byrom Bramwell." Sir William Turner, in toasting Dr. Bramwell, began with his career as a student in Edinburgh, where he took the medal in anatomy in the first year of Sir William Turner's occupancy of the chair of anatomy. He referred to Dr. Bramwell's numerous contributions to medicine, to his years of clinical teaching in Edinburgh, and to the high professional ideals that had characterised his life in Edinburgh, which was testified to by Dr. Bramwell's present occupancy of the presidential chair of the Royal College of Physicians. After Dr. Bramwell had responded, the toast of "The Chairman" was proposed by the Vice-President of the College, Dr. W. Allan Jamieson.

The Edinburgh Medical School: The Teaching of Midwifery and the Insurance Act.

The Medical School of Edinburgh is much perturbed over the probable effect of the National Insurance Act on the facilities for teaching midwifery in Edinburgh and elsewhere. A meeting has been called by the Edinburgh Obstetrical Society to consider the question, but no way out of the difficulty was devised by the meeting. The view, which has gathered strength since the meeting, is that strong representations must be made to the General Medical Council, and that it is incumbent on that body to take up the matter promptly and vigorously.

Bequest for Aberdeen Royal Infirmary.

Mr. James Aitken, of Darroch, Forfar, who died on Dec. 17th last, and who left in addition to real estate of considerable value, personal estate in the United Kingdom valued at £137,536, has left, subject to some legacies and life interests, the residue of his property for distribution into 35 parts, five of which parts will go to the Aberdeen Royal Infirmary.

May 21st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Organisation of the Profession in Dublin.

IN Ireland Local Insurance Committees are to contain only two medical men, who are to be nominated by the Insurance Commissioners. The Commissioners have, however, signified their willingness to take advice from the Conjoint Committee of the British Medical Association and the Irish Medical Association with regard to the nominations. The Conjoint Committee is to submit four names for each county and county borough, from which the Commissioners will select two. At a meeting of the profession in Dublin on Tuesday last the names of Mr. J. P. Garland, Dr. Henry Jellett, Mr. R. P. McDonnell, and Dr. R. J. Rowlette were selected to be placed before the Conjoint Committee. A Local Medical Committee of the following 38 members was also elected: Sir J. W. Moore, Sir T. Myles, Sir J. Lentaigne, Sir A. Chance, Dr. Byrne,

Mr. G. P. Cope, Mr. J. T. D. Crinion, Mr. H. G. G. Day, Mr. O'C. J. Delaboyde, Mr. J. P. Garland, Mr. W. Fottrell, Mr. C. J. Powell, Mr. J. O'Donoghue, Dr. F. T. P. Newell, Mr. W. F. Delany, Mr. K. Maguire, Dr. E. M. Fannin, Dr. P. King Joyce, Mr. R. S. Wayland, Mr. F. J. Woods, Mr. E. Glenny, Dr. J. C. McWalter, Dr. E. Webb, Mr. R. P. McDonnell, Dr. H. T. Bewley, Dr. Rowlette, Dr. Jellett, Mr. A. J. Horne, Dr. J. Craig, Mr. J. S. McArdle, Dr. J. M. Day, Dr. F. W. Kidd, Dr. J. Lumsden, Mr. M. R. Hayes, Dr. T. G. Moorhead, Dr. M. J. Gibson, Mr. G. Sheppard, and Mr. E. L. Sheridan. As many societies in canvassing for members promise medical attendance as an additional benefit, exertions are being made to induce medical men to refuse to make arrangements except through the Local Medical Committees in each district.

Maternity Hospitals and the Insurance Act.

The maternity hospitals have at last awoke to the serious way in which they will be affected by the Insurance Act. The Master of the Rotunda Hospital, Dr. H. Jellett, has issued a special report to the governors of that institution in which he points out that the Act will injure maternity hospitals in three ways—(1) by causing a probable reduction in the amount of subscriptions; (2) by causing additional expenditure in consequence of having to insure both servants and staff, and possibly the probationer nurses; and (3) by penalising all patients admitted to the intern maternity department of the hospital or who are attended in the extern maternity department. The third point is by far the most serious for the Rotunda, but it applies to all maternities. Under the Act no payment can be made on account of sickness or maternity benefit in respect of any woman who is an inmate of the hospital during her confinement. Further, payment of this benefit can only be made if the woman is attended during her confinement by a registered medical practitioner or certified midwife. Thus, by the first of these regulations all intern patients, and by the second, all extern patients, of maternity hospitals are to lose their maternity benefit. Dr. Jellett suggested to the Irish Insurance Commissioners two ways of meeting these obvious difficulties. The first is that, though the mother will forfeit her maternity benefit by entering a hospital, still the money might be paid to her husband's dependents under Section 12 (2) (*a*) of the Act. The chairman of the Irish Insurance Commissioners holds that the Act gives no such power, but legal opinion does not support him. The second suggestion is that women who are attended by medical students or pupil nurses in the extern department of a recognised hospital, under the direct supervision of a medical officer of the hospital, should be regarded for the purposes of the Act as being attended by a registered medical practitioner, thus entitling such women to receive their maternity benefit. The Commissioners promised to consider carefully this suggestion, but so far they have not reported. These clauses in the Insurance Act referring to maternity benefit illustrate clearly the lack of competent medical advice in the framing of the Act. The two ideas of the Act are to cure and to prevent illness. Now, if the women cannot under the Act enter maternity hospitals they will be attended by an inferior class of nurse, and the risks and accidents of childbirth will be enormously increased, and in the end the Insurance Act will, at the very foundation of public health, do injury instead of good. Further, the maternity hospitals, as training schools, will be much injured, and thus the Act may injure the progress of medical science at a time when, through the action of the General Medical Council, a far stricter and more prolonged attendance on maternities has been made obligatory on medical students. At a conference held last week of representatives of the three maternity hospitals in Dublin, the Rotunda, the Coombe, and the National, Dr. Jellett repeated his criticism of the Insurance Act in relation to maternity hospitals, as detailed above. After considerable discussion, Serjeant Matheson, K.C., and Dr. Jellett were requested to draft a rule by way of suggestion, to be placed before the Insurance Commissioners, with a view to dealing with the difficulties.

The late Chief Surgeon of the "Titanic."

At the Catholic University Church, Dublin, last Monday, a solemn requiem mass was celebrated for the late Mr. W. F. N. O'Loughlin, surgeon to the *Titanic*, and commodore surgeon of the White Star Line, who was a student of the University from 1866 to 1869. A funeral sermon was preached by the Rev. Patrick Walsh, Dean of Residence at the University College.

Flies and the Public Health.

Sir Charles Cameron, medical superintendent officer of health of Dublin, has written to the papers concerning the part played by flies in the dissemination of disease. He calls on the public to destroy house-flies and to keep food under cover. "The public health committee," he remarks, "are now grappling with the fly danger by purchasing bags full of dead flies." Unfortunately, the public health committee does little or nothing to deprive the fly of its breeding-ground—the filth which lies untouched in streets, lanes, and yards of the city. The committee cannot even persuade the cleansing committee to take steps to keep the public streets and causeways of the city even moderately clean. Horse droppings lie for an indefinite period where they fall. In all but the main thoroughfares offal and garbage of all kinds may also be found. Decaying vegetables and putrid fish lie in the gutters for days. Even fish and vegetables exposed for sale are often stacked on the bare pavements. The number of private slaughter-houses in Dublin is very large, although there is an excellent public abattoir.

Sir Almroth Wright, F.R.S.

The freedom of the city of Belfast is to be conferred on Sir Almroth Wright, F.R.S., on June 3rd, when he and the other new freemen are to be entertained at a public luncheon by the Lord Mayor. On the same evening a dinner in his honour is to be given by the Ulster Medical Society.

Royal Medical Benevolent Fund Society.

At the annual meeting of the Belfast and District Branch of the Royal Medical Benevolent Fund Society of Ireland, held in the Medical Institute, Belfast, on May 17th, it was reported that there was a slight falling off in the amount of the subscriptions, the total for the year being £151 13*s.*, a net decrease of £7 12*s.* 9*d.* There was a small attendance at the meeting, and the speakers referred to the want of interest taken by practitioners in the charity. It is certainly remarkable that this society is, for some reason or other, not popular with the profession, and the causes of this lack of interest should be investigated.

The Water-supply of Londonderry.

During the drought of last year Londonderry suffered greatly from want of water, and there appears again to be uneasiness in that city as to the quality of the supply. The medical officer of health stated at a monthly meeting of the city corporation, held on May 20th, that none of the water supplied to the citizens from the different reservoirs was filtered. The whole matter is to be discussed at the next meeting of the council.

Carrickmacross Rates.

The estimate for the town rates of Carrickmacross, a little town in Co. Monaghan of 2000 inhabitants, amounts to 14*s.* in the £1, being a consolidated town rate of 10*s.* 10*d.* and a poor-rate of 3*s.* 2*d.* in the £. Such a rate is unprecedented in this or any other town in Ireland. It has arisen largely owing to litigation over a pork-market. The ratepayers threaten to refuse payment.

May 21st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Cholera.

AT the Société de Thérapeutique on May 1st M. Consoli, in a communication on the treatment of cholera, pointed out the indications for iodine in this complaint, in that it has anti-emetic, bactericidal, and antidiarrhœic properties. It had been administered in a solution of 50 drops of the (French) tincture of iodine in a litre of water, 300 grammes of this mixture being given daily. Rectal injections have also been employed, using a litre of boiled water at a temperature of 39° to 40° containing 50 drops of tincture of iodine. The administration of the tincture of iodine has been continued by the mouth up to minimal doses of from 4 to 10 drops during convalescence. The hospital staff also took the same daily dose as a preventive. With the administration

of the tincture of iodine the vomiting ceases, the diarrhœa diminishes, the intestinal pain is relieved, and the patient's general condition improves. Besides tincture of iodine, M. Consoli has made use also of the following symptomatic remedies: to repair the diarrhœal losses, subcutaneous or intravenous injections of physiological serum at 37° C; for the cramps and chills, prolonged hot baths at from 40° to 50°; to stimulate cardiac action, injections of camphorated oil, of caffeine, sparteine, sulphuric ether, digalen, and sometimes of adrenalin; for nervous troubles, hypodermic injections of quinine and of strychnine; for the cerebral congestion, ice-bags and leeches to the temples; and for renal anuria, pilocarpine, caffeine, bleeding, and injections of serum. Finally, to avoid the sweating the body was enveloped in cotton-wool, and inunctions of hot oil and frictions with camphorated alcohol were used. In the hospital of Boiana this treatment has effected a cure in 63 per cent. of the cases.

Academy of Medicine.

In the election for a *membre titulaire*, which has just been held, there were four candidates, M. Jalaguier being at the head of the poll. The second name was that of M. Bazy, who was a long way behind M. Jalaguier.

The Purification of Oysters from Bacterial Contamination in Filtered Water.

M. Fabre-Domergue has described the purification of oysters by a sedimentation tank with a closed circuit, and has given the results of 360 analyses made during the time necessary for this purification. The mean contamination of 46·6 per cent. drops sharply from the second day to 21 6 per cent., then diminishes slowly, arriving at zero in all the cases examined on the fourth day. This finding confirms the author's previous observations with regard to the time required for the complete evacuation of the intestinal contents of oysters in filtered water, and to the preponderance of this factor of contamination in relation to the infection of the pallial cavity, which hitherto has been considered almost exclusively. In consequence of certain modifications in regard to the elimination of the sediment and to the circulation of the water, the sedimentation tank can contain 4000 oysters without any appreciable mortality (3 or 4 per 1000). The water distilled in January has not had to be renewed, and presents the same limpidity as at the beginning, and the same purity in respect of organic matter. The results that this process has given justify one in affirming that the practical purification of oysters by sedimentation in filtered natural sea water at the sea-shore would entail no difficulty, and could be much more simple.

The Sale of Toxic Drugs.

In consequence of the conviction of Besançon chemists for selling toxic drugs to unknown persons without a prescription, the Syndicate of Physicians of the Seine, at its general meeting on May 5th, passed a resolution calling the attention of the authorities to this question of such importance to the public health. The Syndicate urgently presses on the Commission on the Illegal Practice of Medicine the study of measures to obviate the continuance of this state of things.

May 20th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Therapeutic Action of Thorium Products.

Professor Bickel recently read before the Berlin Medical Society a paper on the Therapeutic Action of Mesothorium, Thorium X, and Thorium Emanations From his description of the different thorium products and of radium it appeared that thorium emanation was much less persistent than radium emanation, the average period for radium emanation being 5·5 days, but for thorium only 76 seconds. The first product that was tried was mesothorium; the beta and gamma rays issuing from it proved to be quite indifferent against autolytic ferments and against pepsin, trypsin, and diastase, but to have an intensive action on the tissses of the body, a fact which became obvious by regressive and other processes in the cells. Mesothorium has thus proved efficacious in lupus and cancer of the skin. Thorium X and thorium emanation had an intensive action on the autolytic ferment and the ferments of digestion, a property which induced Professor Bickel to administer these substances as internal remedies. The advantage of thorium was that its administration was much simpler than that of radium; owing to the short duration of thorium emanation it was impossible to administer it by inhalation; it must be given either by the mouth or subcutaneously. It was proved that the quantity of emanation in the blood gradually increased; although a part of the emanation was discharged by the respiration, more was generated as long as the substance was present in the circulation. When the emanation within the circulation was measured a curve was obtained which ascended rather rapidly, and after having reached a maximum it gradually descended when the discharge through the kidneys exceeded the absorption by the intestines. It was therefore possible to obtain a continuous supply of emanation by administering a solution of thorium X several times a day. The quantity of emanation recognised as present in the blood might be as much as 4611 Mache units per litre, an amount much greater than could be obtained by means of radium. Professor Bickel said that he had administered thorium three times a day, the doses being from 1000 to 8000 Mache units, and the duration of treatment being from four to eight weeks. The cases were principally chronic rheumatism of the joints and arthritis deformans. The results were described in the paper as follows. In a number of patients a reaction occurred similar to that observed in treatment by radium. The improvement seen in the joints was partly anatomical, partly functional; swelling either disappeared, or if intermittent it became less frequent; pain either diminished or disappeared. Professor Bickel also stated that he had met with unsuccessful cases in which the morbid condition was not in any way influenced either by radium or by thorium emanation, notwithstanding an administration of the substances for weeks. In the discussion Dr. Plesch, assistant in the First Medical University Clinic, gave a report of the results obtained in that clinic. He said that thorium X being a soluble product of radiothorium, it was possible to inject doses of millions of Mache units within 1 cubic centimetre. He had found that these enormous number of units were not injurious to the organism. With respect to his practical results he said that patients suffering from cardiac dyspnœa were able to breathe freely immediately after the administration of the substance. In pneumonia a favourable influence on the respiration was also observed. The blood pressure sank in numerous cases of hypertension and remained low for several weeks. Attacks of angina pectoris either disappeared altogether or became much slighter. The decrease of the blood pressure proved that mesothorium had a vaso-dilator action. In gout a prompt action was obvious. A patient with deposits of uric acid in many joints, who had had no attacks for years and whose blood contained uric acid, had a severe attack four hours after an injection, and uric acid was excreted in great quantities by the urine. In tuberculosis no obvious effect was produced. In two cases of suppuration of the accessory cavities of the nose the inhalation of emanation made the headache disappear and the secretion diminish. In a case of sarcoma the growth did not increase in size for six months during the treatment. In two cases of leukæmia the number of leucocytes per cubic millimetre decreased in one patient from 174,000 to 666 in 17 days, and in the other patient from 110,000 to 2500 in 12 days. The thorium product was discharged principally by the intestines and the urine. The discharge by the intestine might cause enteritis, and therefore Dr. Plesch prescribed purgatives and enemata, together with food rich in cellulose. Intravenous injection was the most efficacious form of administration. Subcutaneous injection should be avoided because necrotic ulcers might develop after some weeks, just as happened with radium and Roentgen rays.

The Treatment of Yaws by Salvarsan.

Dr. Rost, a naval surgeon, writing to the *Münchener Medizinische Wochenschrift*, has given an account of his experiences on the action of salvarsan in yaws at the St. Augustine's Hospital, in Trinidad, British West Indies. The method of administration was by intramuscular injection of the remedy in the form of an oil emulsion. The patients were 500 in number, of whom 498 (i.e., 99·6 per cent.) recovered completely. Of these cases, 409 (i.e., 81·8 per cent.) required only a single injection; 75 (i.e., 15 per cent.) required two injections; and 14 (i.e., 2 8 per cent.)

required three injections. Two cases were still under treatment when Dr. Rost left Trinidad, but they were so much improved that their ultimate recovery was expected. After the first injection there were four cases of relapse, but the second injection was quite successful. Yaws affecting the nostril at first appeared to be refractory against the treatment, but disappeared after a repetition of the injection. No undesirable complications connected with the nervous system were observed, although 75 per cent. of the patients were children; the pain was only slight and intramuscular infiltration gradually disappeared. Intramuscular injection was preferable to intravenous in tropical colonies, because it was much simpler and did not require a complicated apparatus. Dr. Rost considered that salvarsan must be regarded as a specific against yaws and that the object aimed at by Professor Ehrlich—namely, the obtaining of recovery by a single injection, his so-called *sterilisatio magna*—had been accomplished in the case of yaws.

May 18th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Dominion Registration.

EVERY province of the Dominion has now ratified the Canada Medical Act, known as the Roddick Bill; and, as empowered by the Act, the Minister of Agriculture, under whose department the Dominion Medical Council is to be organised and the Act put into operation, will summon a conference of the representatives at Ottawa in the coming summer. By this Act every holder of a provincial licence of ten years' standing in any province may register with the Dominion Medical Council, and will then be at liberty to practise medicine in any province—that is, in any part of the Dominion. Students will be permitted to take the examinations, should they elect, and thus be licensed to practise in any province in the Dominion. Dominion registration has been before the Canadian medical profession since the Confederation in 1867. Dr. T. G. Roddick, of Montreal, who may now be proclaimed the father of the Dominion registration, with the view of furthering it entered the House of Commons as a member for St. Anns, Montreal, and was successful in having the original Act passed in 1902. An amendment was sought to the Act and secured in 1910, and all that now remains is to organise the Dominion Medical Council. For his persistent and patient efforts Canadian medicine and the Dominion of Canada at large are deeply indebted to Dr. Roddick, than whom no man has done more for the profession of medicine in Canada.

Annual Convocation of Western Medical College.

In the 30 years' history of the Medical Department of the Western University at London, Ontario, the annual convocation, held on the evening of May 2nd, was the most successful, and the year just closed the most prosperous, of the department. Dr. Walter H. Moorhouse, the ex-dean, presided; and Bishop Fallon gave the address of the evening, promising the loyal and enthusiastic support of the Roman Catholic Church in Western Ontario for the university at large. Dr. J. Moriarty, the gold medalist for the year, made the valedictory address, to which Dr. H. A. MacCallum responded for the faculty. Dr. MacCullum said that the graduating class of the present year was the largest graduating class in medicine of any medical institution in Canada. He pointed out that the year just ended was the last of the old *régime*, for reorganisation was to take place during the coming summer, and when the medical department opened in the fall of the year the Western University would have five professors who would devote all their time to their work. The new hygienic institute would then be in running order with a responsible head, and would train the men required by the country to eradicate infectious diseases. He called for an endowment of a million dollars and felt sure that it could be raised. London, as Bishop Fallon had said, was in the garden of the Dominion of Canada, if not of the American Continent, and offered a fine opportunity for building up a first-class university with a medical department second to none.

Lister Night at the Academy of Medicine, Toronto.

The regular monthly meeting of the Academy of Medicine, Toronto, on April 2nd, was set aside as Lister night. The President, Dr. Newton A. Powell, occupied the chair. A paper by Sir Hector C. Cameron, of the University of Glasgow, was read by Dr. W. A. Young. Mr. Irving H. Cameron, Professor of Surgery in the University of Toronto, read a paper on the Influence of the Researches of Pasteur and Lister on Surgical Pathology, and personal reminiscences of Lister were contributed by Dr. F. LeMaitre Grasett, of Toronto, Dr. John Stewart, of Halifax, Dr. A. E. Malloch, of Hamilton, and Dr. E. St. George Baldwin, of Toronto, all former students of Lister. Dr. Albert A. Macdonald, of Toronto, read a paper prepared by Dr. Henry O. Marcy, Boston, U.S.A. The symposium concluded with two papers by Dr. G. A. Bingham, of Toronto, and Dr. R. B Nevitt, of Toronto, on Surgical Practice and its Daily Debt to Lister, and Pre-Listerian Surgery respectively.

Ontario Health Matters.

At the recent session of the Ontario Legislature a new Ontario Health Act was passed dividing the province into seven health districts, to be under the charge of seven health officers at a salary of £500 per annum and travelling expenses. The health officers will be responsible to the chief health officer of the province. The Legislature also passed a new Vaccination Act, which is to be administered by the health officers in their respective districts. The district health officers will have nothing to do with cities of over 50,000 population, where municipal health officers give their whole time to the work.

Association News.

The annual meeting of the Canadian Medical Association will be held in Edmonton and Calgary, Alberta, August 10th–14th, under the presidency of Dr. H. G. McKid, Calgary. Dr. E. W. Archibald, 160, Metcalfe-street, Montreal, is the general secretary.—The annual meeting of the Ontario Medical Association is to be held in Toronto, May 21st–23rd, under the presidency of Dr. Herbert A. Bruce, of Toronto. Dr. F. A. Clarkson, of Toronto, is the general secretary.—The annual meeting of the Canadian Association for the Prevention of Tuberculosis is to be held in Toronto, May 20th and 21st, Professor J. George Adami, of Montreal, being President, and Dr. G. D. Porter, of Toronto, general secretary.—The Canadian Public Health Association has been incorporated by the Canadian Parliament, and will meet in Toronto in September under the presidency of Dr. C. A. Hodgetts, of Ottawa. Dr. Lorne Drum, of Ottawa, is the general secretary.

May 10th.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held on May 16th, at Caxton House, Westminster, with Sir Francis H. Champneys in the chair. A letter was considered from the medical superintendent of the Croydon Union Infirmary as to the system hitherto adopted with regard to the practical training of sister midwives in the Infirmary. A letter was also considered from a certified midwife approved by the Board for the purpose of supervising the practical work of pupils, asking whether in the case of trained nurses who are unable to leave their existing employment for longer than four weeks, their training may be compressed into that period. The Board decided that the request to reduce the period of practical training below three months be refused in each case. A letter was considered from the honorary secretary of the Basingstoke and District Medical Society asking the Board to guarantee the payment of a fee of 2 guineas in cases where a medical practitioner, being a member of the society, is summoned in an emergency on the advice of a midwife. The Board directed that the reply be that the Board has no power to guarantee fees. A letter was considered from a certified midwife asking the Board's advice as to the payment of a fee claimed by a medical practitioner who was summoned in an emergency on her advice. The Board decided that the reply be that a midwife having advised that medical aid be summoned has discharged her duty under the rules, and that it is no part of the Board's duty to give legal advice as to the recovery of fees by a medical practitioner. A letter was considered from the clerk of the County Council of Durham drawing the Board's attention to the difficulty of securing the conviction of an uncertified woman for practising as a midwife owing to the presence of the word "habitually" and the proviso as to emergency in Section 1 (2) of the Midwives Act. The Board directed that the correspondence be sent to the Privy Council.

THE ROYAL SOCIETY OF MEDICINE.

OPENING OF THE NEW BUILDINGS BY THE KING.

THE King, who was accompanied by the Queen, formally opened the new building of the Royal Society of Medicine at No. 1, Wimpole-street, on Tuesday afternoon, May 21st, in fine weather. A guard of honour, under the command of Major H. H. Tooth, was mounted by a medical contingent of the University of London Officers' Training Corps. The Royal party reached the main entrance of the building punctually at a quarter to four.

A large and distinguished assembly awaited the arrival of Their Majesties, who were received on alighting from their carriage by the President, Sir Henry Morris, the honorary secretaries, Dr. Arthur Latham and Mr. H. S. Pendlebury, and the secretary, Mr. J. Y. W. MacAlister. The members of the Council and of the Building Committee waited on either side of the entrance hall. As the Queen entered the building she was presented with a bouquet by Mrs. Arthur Latham. Their Majesties proceeded to the Robert Barnes Hall, where the President read the following address:—

To the King's and the Queen's Most Excellent Majesties.

MAY IT PLEASE YOUR MAJESTIES,

We, the President, Council, and Fellows of the Royal Society of Medicine, desire to convey to Your Majesties, with our loyal duty, our attachment and devotion to Your Persons and to the Throne.

We take this opportunity to express our grateful appreciation of the deep interest which Your Majesties invariably evince in all that concerns the well-being of Your subjects, as well as in the progress of our profession, whose vocation it is not only to preserve the individual by curing disease, but to improve the health of the nation by promoting hygiene and preventing illness. Our society was founded in the year 1805, but greater stability and effect were given to its designs by the Charter granted in 1834 by the special grace of His Majesty King William IV., who thereby declared himself, "and his successors if they shall think fit," the Patron of the society.

It is our pride and privilege to record that each of the illustrious Successors of King William IV. has so thought fit, and that our greatly beloved, and never to be forgotten late Sovereigns, Her Majesty Queen Victoria, and His Majesty King Edward VII. have been, and now your own excellent Majesty is our Patron.

By a Supplementary Charter graciously granted in the year 1907 by Your Majesty's august Father, the society was empowered to enrol as Fellows the members of several younger societies having allied objects; the scope of the society was enlarged; its name was changed from "The Royal Medical and Chirurgical Society of London" to "The Royal Society of Medicine"; and it was specifically ordained that female as well as male persons might be elected Fellows and appointed to offices of the society.

Thus the Royal Society of Medicine now forms a large corporation, embracing within its fold the most important medical societies in the country, and having for its object the improvement of the art and science of Medicine in all its branches by means of debate, collaboration, and research.

Your Majesties who at all times show very active sympathy in the work of the great hospitals and similar institutions, and in everything that tends to alleviate sickness and relieve suffering, take also, as we are well aware, a keen and enlightened interest in every advancement of medical knowledge directed to the furtherance of these humane ends. Such progress is the single purpose of this society.

To have been distinguished by the gracious favour of Your Majesties on this auspicious occasion has given inexpressible pleasure to all concerned and is a recognition that reflects the brightest lustre upon the history of the society.

It is with these feelings of appreciation and gratitude that we very earnestly thank Your Majesties for the great honour you have conferred upon us, and upon the profession at large, by Your presence here to-day.

HENRY MORRIS,	President.
WILLIAM S. CHURCH, FRANCIS H. CHAMPNEYS,	Hon. Treasurers.
R. J. GODLEE, NORMAN MOORE,	Hon. Librarians.
ARTHUR LATHAM, HERBERT S. PENDLEBURY,	Hon. Secretaries.

J. Y. W. MACALISTER, Secretary.

HIS MAJESTY replied:—

I thank you on behalf of the Queen and myself for the loyal and dutiful address of the Royal Society of Medicine. It gives me great pleasure to open the fine building which will henceforth be the home of the society, and which will provide adequately for the increase in your membership and for the extension of your duties since a new and enlarged charter was granted to you by my father, King Edward.

The importance of the society's work is now universally recognised, and it is a matter of satisfaction that the needs of the society have been so generously provided for, and that its varied functions can now be carried on unhampered by lack of space. The health and well-being of the community are safeguarded by the energies of the medical profession. We look to you to fight sickness and disease, and we claim from you an untiring vigilance in this contest, and unceasing efforts to find, by the investigation of the laws of nature, new means of combating these enemies. Medical science has revealed by experiment and trained observation new securities for life and health during recent years, and none can doubt that the improved public health is mainly due to the discoveries made by the medical profession in this and other countries, to the guidance given by that profession to the civil authorities, and to the sanitary precautions against the spread of disease which they have enforced. It gives us the greatest satisfaction to assist in any way the interests of your noble calling, and the Queen and I will ever watch the progress of your society with sympathy and hearty goodwill.

It only remains for me to declare this new building opened, which I do with the greatest satisfaction and pleasure.

Their Majesties next proceeded to the basement, the King having expressed a special desire to examine the book-store. Here a large proportion of the books are kept on adjustable iron shelves which have been specially designed to secure economy of space. The honorary librarians, Mr. Rickman J. Godlee and Dr. Norman Moore, conducted Their Majesties through this department. Returning to the first floor the King and Queen entered the library.

The Library.

This has already been described in our columns (*vide* THE LANCET, Vol. I., 1911, p. 758), and it will be sufficient to remind our readers that the room occupies the whole length of the building and is 110 ft. long, 28 ft. wide, and 19 ft. high. The books housed in the library number 100,000. It is a curious coincidence that this number almost exactly corresponds with the number of pounds sterling which the society has spent in investigating medical subjects and in publishing and circulating medical literature. This library, which has been removed from its old quarters, is one of the finest collections of medical literature in the world, and the system of distribution has been so perfected that its utility reaches throughout the ends of the British Empire. In addition to the convenient table lamps referred to below, the ceiling lights are so arranged that light is reflected upward and then back by the wide expanse of white ceiling throughout the whole room.

In the library the following were presented to the King and Queen by the President:—Sir William S. Church, Sir Francis H. Champneys, Mr. J. Warrington Haward, Dr. Frederick Taylor, Mr. Clinton T. Dent, Dr. Amand Routh, Dr. R. T. Hewlett, Dr. Theodore Thomson, Mr. H. Lloyd Williams, Sir William Osler, Sir Malcolm Morris, Dr. George H. Thompson, Dr. F. W. Mott, Dr. StClair Thomson, Dr. W. J. McCardie, Mr. Richard Gill, Dr. William Milligan, Mr. Arthur H. Cheatle, Dr. G. A. Sutherland, Mr. A. D. Reid, Mr. W. Deane Butcher, Dr. W. E. Dixon, Dr. R. A. Gibbons, Dr. W. P. Herringham, Mr. R. Clement Lucas, Mr. D'Arcy Power, Dr. H. D. Rolleston, Mr. Charters J. Symonds, and Mr. E. F. White. The following members of the Building Committee who are not on the Council were then presented: Dr. Herbert R. Spencer, Dr. C. Theodore Williams, Dr. Leonard L. B. Williams; and also the architect, Mr. John Belcher, the representative of the lady Fellows, Dr. Mary Scharlieb, and the editor of the society's Transactions and Journal, Dr. John Nachbar.

Their Majesties were then conducted round the library. One of the first things which attracted the attention of the King was a novel electric-lighting arrangement for writing tables, the invention of the secretary. Having realised the inconvenience of the flexible cord

which has hitherto been used for supplying the electric current to table-lamps, Mr. MacAlister devised a small apparatus which does away with the old form of standard-lamp attachment. It consists of a socket in the floor connected with the source of electric supply, and a plug in the leg of the table which fits into this socket. The plug is kept in position by a spring, the resiliency of which is easily overcome by the weight of the table. A model of this attachment was accepted by the King. Their Majesties then examined the old roll of the Royal Medical and Chirurgical Society, the parent of the new organisation, and showed great interest in the names of the eminent medical men therein inscribed. A special page was inserted in the Obligation Book for the Royal signatures, inscribed as follows:—

Royal Society of Medicine. Founded 1805, Incorporated by Royal Charter 1834, Supplementary Charter granted 1907. Opening of the Society's new building, Wimpole-street, W., Tuesday, May 21st, 1912, by His Majesty the King, Patron of the Society, accompanied by Her Majesty the Queen.

Subsequently Their Majesties were presented with copies of the history of the Society, and on leaving the library they were conducted to the second floor of the building. After passing through and inspecting the various committee-rooms they proceeded to the Fellows' tea-room.

Those who took tea with Their Majesties included Sir Henry Morris, Sir William and Lady Church, Sir Francis and Lady Champneys, Mr. Rickman J. Godlee, Dr. and Mrs. Norman Moore, Dr. and Mrs. Arthur Latham, Mr. H. S. Pendlebury, Mr. J. Y. W. MacAlister, Sir William and Lady Osler, Mr. Pierpont Morgan, the Lord Mayor and the Lady Mayoress, the Mayor and Mayoress of Marylebone, Sir Richard Douglas Powell, Sir James and Lady Reid, Sir Havelock and Lady Charles, Lord and Lady Strathcona, Sir Thomas and Lady Barlow, and Sir Francis Laking.

Shortly after 5 o'clock Their Majesties took leave of the Council, the President, and secretaries, who accompanied them to their carriage; but previous to their departure the King inspected the guard of honour. The newly formed band of this corps gave during the proceedings a programme of music.

It is interesting to note that the society has enjoyed Royal patronage since its incorporation in 1834. The society was founded under the name of the Medical and Chirurgical Society of London in 1805, and in 1834 King William IV. granted the society a Royal Charter and became its patron. On his death Queen Victoria became patron and signed the roll, and King Edward VII. as Prince of Wales presided over committees of the society at its house in Hanover-square, and upon his accession became patron and signed the roll. In 1905 as the Prince of Wales our present King was elected a Fellow of the society and attended the centenary dinner, and on his accession became patron.

Tuesday's ceremony was in every way a great success, and the arrangements for the Royal visit were admirably planned and carried out. The list of donations to the new building fund will be found in an early part of the advertisement pages of THE LANCET.

The Conversazione.

On Wednesday evening, May 22nd, the President of the Royal Society of Medicine, Sir HENRY MORRIS, entertained a large company at a conversazione in the society's new house, to celebrate the Royal opening of the preceding day. The guests were received by the President in the Library, where a musical programme was provided by the string band of the University of London Officers' Training Corps, under the direction of Mr. G. K. Roberts. An entertainment was also given in the Robert Barnes Hall, and during the evening the visitors had an opportunity of inspecting and admiring the many attractive features of the new building.

Her Majesty Queen Alexandra has given her patronage to the garden fête to be held at Devonshire House on June 14th in aid of the National League for Physical Education and Improvement.

THE annual dinner of the West London Post-graduate College and Past and Present members of the West London Hospital staff will be held at the Balmoral Rooms, Trocadéro Restaurant, Piccadilly-circus, on Tuesday, June 11th, at 7.15 for 7.45 P.M., under the chairmanship of Dr. Arthur Saunders.

THE NATIONAL INSURANCE ACT.

ABERDEEN PRACTITIONERS AND THE ACT.

UNDER the auspices of the British Medical Association a meeting of the Aberdeen practitioners was held on May 13th, when the following report was submitted and adopted provisionally, pending the final decision of the Association as a whole:—

The Provisional Medical Committee (Aberdeen Division), in submitting a report, desire to premise that the recommendations therein contained are made without prejudice to the question (at present under consideration of the committee) of whether or not, in working the Insurance Act, the principle of contract work should be abolished and that of payment for work done substituted.

Your committee, subject to the above qualification, recommend the adoption of the principle of a minimum capitation fee of 8*s.* 6*d.* for medical attendance without medicine, extra payments to be made for special work. In considering this matter, your committee has reference to the report made last year by the Contract Practice Committee of the Aberdeen Medico-Chirurgical Society. This report, embracing 25 practices with 56 clubs, and a total club membership of at least 12,000, showed that the average fee per visit or consultation worked out at 10*d.* to 1*s.* without medicine, and 8*d.* to 10*d.* with medicine, but the number of visits or consultations was in most cases only an approximate calculation.

Your committee has now considered the returns, accurately made out for the whole year 1911, of another local practice, which includes five societies with a total membership of 1856. In this practice the payment per visit or consultation, when patients had to buy their own medicine, worked out at 11*d.*, and when they were supplied with medicine at 6*d.*—a very important and material difference—while each patient was visited by or consulted the doctor 4·25 times per annum.

Your committee, in considering the ways in which the Insurance Act would still further depreciate the very low present payments of Friendly Society work, would draw attention to the following points:—

1. Hitherto all Friendly Society members have been healthy and only, as a rule, eligible for membership under 40 years of age. Under the Insurance Act all lives, including the unhealthy and chronic invalids, would have to be treated, and all under 65 years of age would be eligible.

2. Friendly Societies have hitherto been recruited from classes earning a fair living wage, and hence able, by means of wholesome food, fairly comfortable dwellings, &c., to keep themselves in fair health. Under the Insurance Act the very poorest will be included—people who, from inability, through low wages, &c., to keep themselves in satisfactory condition, are more apt to contract illness and require attention.

3. At present many members of societies are members of more than one society or club; they are attended by one medical man, but the medical officer of their other lodge or lodges is paid their medical contribution. Under the Act every individual on each practitioner's list will be that practitioner's actual patient.

4. In present Friendly Society practice much minor surgery and many accidents go to hospital for treatment; under the Act the hospitals, in all likelihood, will decline to treat such insurance cases.

5. At present, when Friendly Society patients afford their own medicines, the doctor has, in many cases, simply to advise the patient to continue the medicine for a considerable period; under the Act no medicine or repetition of it will be obtainable by patients without medical prescription, and the practitioner's time will be much more occupied in ordering repetitions of medicine (observe that when medicines are not supplied the payment was found to be 11*d.*, as against 6*d.* when medicines were supplied).

6. A poor class will be included under the Act, who hitherto, from inability to pay for doctor or medicine, have only sought treatment in serious illness; under the Act this class, when it realises that medical attendance and medicine are gratuitous, will, very properly, develop the habit of calling upon, or sending for, the doctor on the slightest disability, and will prove as ready to call upon his services and as exacting as any wealthy private patient.

7. Hitherto medical men have been induced to take Friendly Societies at their low figures in the hope of thus securing members' families as private patients. Under the Act this inducement will not hold good. The insured individual will select from the panel of practitioners the medical man who is already his own and his family's doctor, and the only new families to whom the Act will introduce the practitioner will be the families of the very poor class.

8. Practitioners in Aberdeen will find the Act to involve special hardship. The area of the city is wide, and no one district is so densely populated as to exclusively support a practice, with the result that practitioners have to go all over the area. It is not fair that men covering a large daily mileage involving more time and running expense should be paid at the same capitation rate as men working in densely populated districts, such as Glasgow, Manchester, Birmingham, and London, and making rounds of visits in closely adjoining streets of one district.

In the course of discussion it was pointed out that the profession will never contemplate depriving any class, least of all the poorest, of proper medical attendance, and that failing an agreement under the Act, they will themselves make their arrangements for this purpose.

Medical News.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS: DIPLOMA IN TROPICAL MEDICINE.—At the meetings of the above Colleges held on May 9th Diplomas in Tropical Medicine were granted to the undermentioned gentlemen, all of whom attended at the London School of Tropical Medicine:—

Soliman Azmi, L.R.C.P., M.R.C.S., School of Medicine, Cairo and London Hospital; Major Henry Robert Brown, I.M.S., L.R.C.P. & S. Edin., L.F.P.S. Glasg., Edinburgh University; Ardeshir Koyaji Contractor, L.R.C.P., M.R.C.S., M.B. Lond., Bombay University and University College Hospital; William Alfred Murray, M.B., C.M. Aberd., Aberdeen University and St. Bartholomew's Hospital; Captain Denis Joseph FitzGerald O'Donogue, R.A.M.C., L.R.C.P. & S. Irel., Dublin University; Captain James Charles Stewart Oxley, I.M.S., L.R.C.P., M.R.C.S. Eng., F.R.C.S. Edin., St. Thomas's Hospital; Reginald Oliver Sibley, L.R.C.P., M.R.C.S., M.B. Lond., St. Mary's Hospital; and Satyendra Nath Roy, M.B. Calcutta, F.R.C.S. Edin., Calcutta University.

FOREIGN UNIVERSITY INTELLIGENCE.—*Budapest:* Dr. B. Entz has been recognised as *privat-docent* of Diseases of Children, and Dr. J. Frigyesi as *privat-docent* of Gynæcology.—*Frankfort:* Arrangements are being made for consolidating the bacteriological and other teaching institutions into a University.—*Kiel:* Dr. Friedrich Bering, Oberarzt of the University Dermatological Clinic and *privat-docent*, has been granted the title of Professor.—*Madrid:* Dr. Teófilo Hernando has been appointed to the chair of Therapeutics.—*Marburg:* Dr. Waller Berblinger has been recognised as *privat-docent* of Pathological Anatomy.—*Moscow:* Dr. J. Smorodintseff has been recognised as *privat-docent* of Medical Chemistry.—*Munich:* Dr. Ernst Rüdin has been appointed Oberarzt of the University Clinic for Mental Diseases.—*Prague (German University):* Dr. A. Skutetzky has been recognised as *privat-docent* of Medicine.—*Vienna:* Dr. Gustav Bondy has been recognised as *privat-docent* of Otology, and Dr. Viktor Blum as *privat-docent* of Urology.—*Upsala:* The death of Lord Lister having created a vacancy in the membership of the Royal Society of Science, Upsala, Sir Victor Horsley, F.R.S., has been elected as his successor.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The annual general meeting was held on May 15th, at the Mansion House, London. The Right Hon. Sir Thomas Crosby, M.D., Lord Mayor, occupied the chair, and 30 members were present. The officers for 1912–13 were elected, the Lord Mayor being elected President, and Dr. Clement Godson and Dr. W. Culver James Vice-Presidents. Eight gentlemen were elected directors to fill the vacancies in the court. A cordial vote of thanks was passed to the editors of the various medical journals who from time to time published notices of the society. Since the last annual meeting 10 new members were elected, three died, and two resigned. The society consists at the present time of one honorary member, 150 life, and 153 ordinary members, making a total of 304, which, considering the number of medical men who are eligible for membership, is but a very small proportion. The invested funds amount to £101,600, from which was derived in interest the sum of £3167 8*s* 2*d*. £440 4*s* were received in subscriptions and donations. Amongst the annuitants of the charity—namely, 47 widows and 13 orphans—the sum of £3059 10*s* was distributed, each widow receiving on an average £50, besides an additional £10 as a Christmas gift, and each orphan £15 and a gift of £3 at Christmas. The grants to orphans had been increased from £15 to £25 per annum. The working expenses for the year amounted to £215 16*s* 7*d*. One of the widows has been on the books since 1854, and has already received over £2360. Relief is only granted to the widows and orphans of deceased members who have paid their annual subscription for three years or who are life members. During the year 30 letters were received from widows of medical men, who, in many instances, had been left practically penniless, asking for relief, but this had to be refused as their husbands had not been members of the society. The directors would bring to the notice of the members of the medical profession, especially the younger, the advantages of joining the society. Membership is open to any registered practitioner who at the time of his election is resident within a 20-mile radius from Charing Cross. Should any member remove beyond the limits of the society he nevertheless continues to be a member. The annual subscription is 2 guineas; every member who has paid this sum for 25 years becomes a member for life. Life membership may also be obtained by the payment of one sum, varying with the age of the applicant. Further particulars and application forms may be obtained from the secretary at the offices of the society, 11, Chandos-street, Cavendish-square, London, W.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—An advanced course of instruction will be held from June 1st to 29th. This will include courses of lectures and demonstrations on entomology, helminthology, and protozoology.

BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—An extra biennial dinner will be held at the Trocadéro Restaurant, London, W., on Wednesday, May 29th, at 7 for 7.30 P.M. Members are invited to bring ladies, and all graduates of the University of Brussels are welcome. Tickets, 5*s*. (not including wine), may be obtained from the honorary secretary, Dr. Arthur Haydon, 23, Henrietta-street, Cavendish-square, London, W.

THE Glasgow University Club, London, will dine at the Trocadéro Restaurant, Piccadilly-circus, on Thursday, June 6th, at 7.15 for 7.30 P.M., precisely. Dr. William Lorimer will preside. Members who intend to be present or to introduce guests are requested to communicate at once with the honorary secretaries, 30, Seymour-street, London, W. The annual meeting of the club will precede the dinner at 6.45 P.M.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Select Committee on Patent Medicines.

THE Select Committee of the House of Commons which is conducting an inquiry into the subject of patent medicines took further evidence on Thursday, May 16th. Sir HENRY NORMAN was in the chair.

Dr. NESTOR TIRARD, one of the editors of the British Pharmacopœia, was one of the witnesses. He stated that he was secretary to the Pharmacopœia Committee of the General Medical Council, and that he would speak as to the relation of that body to drugs. The concern of the Council was with the standard and purity of drugs, and under the authority of the Medical Act the Pharmacopœia was compiled under its direction and was revised at intervals. The last revision was made in 1898, and the Pharmacopœia Committee was now engaged in making preparations for a new edition. For drugs introduced between one edition and the next there was no standard.

Sir PHILIP MAGNUS (a member of the committee): Is that not rather a serious matter?

Dr. TIRARD: It might be a serious matter, but the drug has to come into general use before the Pharmacopœia establishes a standard of purity.

The CHAIRMAN: Are the committee to understand that during the last 14 years there have been no important discoveries or changes in drugs?

Dr. TIRARD: Not sufficient to necessitate the issue of a new Pharmacopœia. Generally speaking, the General Medical Council and the Pharmacopœia took no cognisance of patent proprietary medicines. If on analysis it was found that a proprietary preparation did contain a scheduled poison, a formula—he did not say an identical formula—was introduced.

The CHAIRMAN: Are we to understand that an analysis is made of the medicine and a formula is introduced which is believed to be identical with the same medicine?

Dr. TIRARD: No.

The CHAIRMAN: The object, then, is that a medical man shall not prescribe a proprietary medicine of which he has no personal knowledge but that he shall prescribe something of the same kind as near as possible from the Pharmacopœia.

Dr. TIRARD: It is nearly that, but not quite. We do not want to suggest to the medical man that he should prescribe anything at all. What we want to aim at is that the substances shall be of constant strength. The idea, he proceeded to say, was to protect the public against any possible change in the amount of any ingredient. For example, the drugs supplied on board ship might be of a variable composition. The master of a ship got into the habit of giving a dose of a certain medicine. He received a new supply of the same medicine, but the ingredients in it varied. By continuing to give the same dose as he had been in the habit of giving he might very conceivably be giving a dose of a most dangerous amount. By introducing the formula for a substance into the Pharmacopœia

hey established for it a definite standard of the poisonous ingredients, and there was no possibility of variation in the amount—say, of the morphia or chloroform—used.

The CHAIRMAN: Supposing that some person devises a new combination of drugs which is very novel and useful and of an entirely legitimate character, and advertises and sells it with generally beneficial results as a patent proprietary article, do I understand that the General Medical Council proceeds to analyse that and to make up something to all intents and purposes identical——

Dr. TIRARD: It is not identical.

The CHAIRMAN: Practically identical, as near as you can get by analysis, and then enables any person to use this preparation. Do you as a right take his discovery?

Dr. TIRARD: No, sir; we do not think that there is any great discovery in putting together some small doses of morphia and the like.

The CHAIRMAN: The fact remains that the General Medical Council, for reasons, some of them of a professional and public nature, put in the Pharmacopœia a combination of drugs similar to one which is sold as proprietary?

Dr. TIRARD: When it appears to us that in view of the safety of the public a standard should be established.

The CHAIRMAN: It is only in cases where the medicine comes within the schedule of poisons.

Dr. TIRARD: That is so. Witness went on to say that he believed that some patent medicines were based on formulæ in the Pharmacopœia, and were taken from it, and so far as his experience went the genesis of many proprietary remedies was the prescription of a medical man. In his view a label should be attached to all medicines which contained one of the scheduled poisons, and should state what the proportion was.

The CHAIRMAN: Does your Council test the merits of new remedies?

Dr. TIRARD: Indirectly so, but not directly. The Council is in touch with a good many associations. There is the Therapeutic Committee of the British Medical Association, which consists of medical men. A good many new remedies are investigated by that body. The Pharmaceutical Society also does something.

The CHAIRMAN: What do you do when a new remedy has gained general acceptance?

Dr. TIRARD: Then we have to introduce it into the Pharmacopœia. We take various methods of making inquiries as to the demands for new remedies and when there is a consensus of opinion that a remedy has passed into general use then we have to define its purity and composition and also to introduce further information about doses.

The CHAIRMAN: What do you mean by general use?

Dr. TIRARD: General use by medical men. We have nothing whatever to do with the value from the point of view of treatment or the specific value of the drug.

The CHAIRMAN: What special methods have you at your disposal for discovering when proprietary preparations should be analysed?

Dr. TIRARD: I have here with me a summary of the suggestions made by several of the medical authorities of Great Britain and Ireland and several colonial bodies in answer to inquiries what alterations should be made in the Pharmacopœia.

Sir HENRY DALZIEL (a member of the committee): What is the action of the General Medical Council towards these patent medicines?

Dr. TIRARD: We disregard them unless they are a source of danger.

Sir H. DALZIEL: You are satisfied that things should remain as they are?

Dr. TIRARD: I should be very glad if this Committee could see its way to recommend that when a scheduled poison is present the amount of that scheduled poison should be definitely stated on the label. That is not giving away the whole composition. It is simply fixing the toxic value. It was the possible variation, witness proceeded to state, that the General Medical Council feared.

Sir H. DALZIEL: You only suggest a label in the case of poisons?

Dr. TIRARD: Only in that case.

Sir H. DALZIEL: That would not apply to the great majority of patent medicines?

Dr. TIRARD: A great many of them contain very little indeed. A great many of them are only water, or a little more than water.

Sir H. DALZIEL: If the label is altered who should be the person to institute a prosecution?

Dr. TIRARD said that he thought the person to prosecute should be the proprietor.

Sir H. DALZIEL: If there is a label giving the ingredients would the chemist not make the medicine himself and sell it?

Dr. TIRARD: There is no secrecy about any of these preparations except so far as the public is concerned. They either contain pharmaceutical substances or else something of not very much worth.

Cross-examined further by Mr. CHARLES BATHURST, Dr. TIRARD said that if a drug was asked for under a pharmaceutical name it must be supplied to the pharmaceutical standard and strength.

Mr. CHARLES BATHURST: Could all poisons like alkaloids be discovered in these drugs?

Dr. TIRARD: Yes. Surely if a poison can be detected months afterwards in a body it can be detected in a medicine.

Mr. C. BATHURST: In your opinion it is desirable that the amount should be stated on the label, and you think that the proprietor should be the person to prosecute? That would not afford sufficient protection to the purchasing public.

Dr. TIRARD: I think it would be a step in advance of the present conditions. There is no security now that the preparations contain anything of any sort.

Cross examined by Mr. GLYN-JONES, witness stated that the preparation of the Pharmacopœia involved a very considerable cost to the General Medical Council, and that they might or might not make a profit out of it. The pharmaceutical work for it was paid for, but not in proportion to the value of the work done. It was the case that the ascertaining of the properties of new drugs was to-day left mainly to private enterprise. He knew a large number of instances where medical men were ordering proprietary medicines. Owners of new drugs took care that they were brought forward.

Mr. LAWSON: You have told us that no drug is admitted into the Pharmacopœia until it is accepted generally by the medical profession. The test of general acceptance is the acquiescence of the medical authorities.

Dr. TIRARD: To a certain extent that guides us. The Pharmacopœia Committee of the General Medical Council consists of eight or nine medical men, who have their own experience, and check each other.

Mr. H. LAWSON: The general public is the *corpus vile* on which the drugs have to be tried before they are accepted?

Dr. TIRARD: Yes. He was not at all sure that the proprietors of new drugs were doing a great service to the public by making them acquainted with them by public advertisements. They made the public pay many times their worth for them. It was often the case when a preparation with a new and taking name was investigated it was found that it contained an old substance.

Mr. LAWSON: Supposing that it was enacted that every label should have an exact statement of the constituent parts of a preparation, would the public be able to understand it if it were in technical language?

Dr. TIRARD: Not in the least. It would be of no use to a man who did not understand the terms, but it would be of value to the man who had a medical education and wanted to know what he was taking.

Mr. G. A. AITKEN, a principal clerk at the Home Office, also gave evidence. The position of the Home Secretary, he said, in regard to the matters which the Committee was inquiring into was Parliamentary and not administrative. The Secretary of State in taking action in any matter in regard to the sale or advertisement of patent medicines would as a general rule refer to the Privy Council. The public press and particularly the Sunday papers were greatly to blame in accepting advertisements as to "secret remedies" and quack medicines. In the opinion of his department the sale of patent medicines to the public was often a cause of mischief, but in the main he thought the spread of education and enlightenment ought to be looked to rather than legislation to put an end to this state of affairs. There was considerable difficulty experienced in instituting prosecutions against those who published the more objectionable and dangerous class of advertisements of this character. The only practical remedy for persons who thought that they had been defrauded through advertisements of this character was themselves to prosecute. The police were not under an obligation to prosecute, and the Director of Public Prosecutions only took up a case where it was considered to be of quite exceptional importance. The present obstacle in the way of taking action against advertisers of "secret remedies" was the necessity of proving that they were indecent. An additional difficulty was to get people to come forward to give evidence. The Home Secretary had had a Bill prepared to make it an offence to publish any advertisements except in any *bond-fide* medical or pharmaceutical periodical which suggested directly or indirectly the taking of any drug for an illegal purpose. That would get rid of the difficulty of having to prove indecency. The Home Secretary was anxious to bring the Bill forward as soon as a suitable opportunity could be found. Witness considered it would be to the public advantage that there should be a general law on the matters connected with the sale of patent medicines.

The Committee adjourned.

Mental Deficiency Bill.

Mr. MCKENNA, the Home Secretary, on Thursday, May 16th, formally presented in the House of Commons the Mental Deficiency Bill, the measure in which the Government promised to deal with the problem of the feeble-minded.

The Bill is one of extraordinary importance and far-reaching effect. It is designed "to make further and better provision with respect to feeble-minded and other mentally defective persons." Its outstanding proposal is that a defective subject to be dealt with under it may be (1) sent or transferred to, and detained in, an institution for defectives; or (2) placed under guardianship. The administrative machinery to give effect to this principle and the safeguards with which it is surrounded are contained in a Bill of 68 clauses and 34 pages. Part I. relates to the central and local authorities, Part II. to the method of dealing with mentally defective persons, and Part III. to the certification and provision of institutions. Part IV. is general and supplemental. In describing the provisions of the Bill it will be convenient to follow this order closely.

Clause 1 of the Bill vests in the Secretary of State the general superintendence of matters relating to the supervision, protection, and

control of persons who are "mentally defective within the meaning of the Act." In the discharge of these duties he will be aided by a body of Commissioners not more than six in number. They will be known as "the Commissioners for the Care of the Mentally Defective." These Commissioners, acting under the control of, and subject to regulations made by the Secretary of State, shall (under Clause 5): "(*a*) exercise general supervision, protection, and control over defectives; (*b*) coördinate and supervise the administration by local authorities of their powers and duties under this Act; (*c*) certify, supervise, and inspect institutions and houses for defectives, and all arrangements made for the care and control of defectives therein; (*d*) visit either personally or by their inspectors defectives in institutions for defectives and certified houses or under guardianship, or (with a view to their certification) elsewhere; (*e*) provide and maintain institutions for defectives of criminal, dangerous, or violent propensities; (*f*) make annual reports and such special reports as the Secretary of State may from time to time require; (*g*) administer grants made out of money provided by Parliament under this Act."

With regard to local authorities, the Bill provides that county councils and the councils of county boroughs shall constitute committees for the care of mentally defectives. To these committees there will be coöpted a certain number of persons having special knowledge and experience with respect to the care, control, and treatment of defectives. Every one of these local authorities shall appoint one or more specially qualified medical officers to assist them in the performance of their powers and duties under the Bill.

The general duties of local authorities are defined under Clause 12. These are:—"(*a*) to ascertain what persons within their area are defectives and are subject to be dealt with under this Act; (*b*) to keep such persons under supervision, and, where necessary or expedient, to take steps for securing that they shall be dealt with by being sent to institutions or placed under guardianship in accordance with this Act; (*c*) to keep registers of defectives; (*d*) to provide suitable and sufficient accommodation for persons sent to institutions under this Act; (*e*) to appoint or employ sufficient officers and other persons to assist them in the performance of their duties under this Act; (*f*) to make to the Commissioners annual reports and such other reports as the Commissioners may require."

Certain qualifications are introduced to leave the powers and duties of local authorities under the Lunacy Acts or those of the local education authorities unaffected by the Bill. However, a fresh duty is thrown upon the local education authority "to make arrangements, subject to the approval of the Board of Education—(*a*) for ascertaining what persons within their area are defective children within the meaning of this Act; (*b*) for ascertaining which of such children are educable; (*c*) for notifying to the local authority under this Act the names and addresses of defective children who are ascertained to be not educable and of children discharged from special schools or classes provided under the Elementary Education (Defective and Epileptic Children) Act, 1899, on attaining the age of 16 or before attaining that age, who are in the opinion of the local education authority defective."

In Part II. of the Bill the method of dealing with mentally defective persons is developed. In the first place the categories of defective persons coming within the scope of the measure are defined in Clause 17. These are so important that textual quotation of the clause is necessary. It proceeds as follows:—

"(1) Save as expressly provided by this Act, the following persons, and no other, shall be subject to be dealt with under this Act, that is to say, persons who are defectives and (*a*) who are found wandering about, neglected, or cruelly treated; (*b*) who are charged with the commission of any offence, or are undergoing imprisonment or penal servitude or detention in a place of detention, or a reformatory, or industrial school, or an inebriate reformatory; (*c*) who are habitual drunkards within the meaning of the Inebriates Act, 1879 to 1900; (*d*) in whose case, being children discharged on attaining the age of sixteen from a special school or class established under the Elementary Education (Defective and Epileptic Children) Act, 1899, such notice has been given by the local authority as hereinafter mentioned; (*e*) in whose case it is desirable in the interests of the community that they should be deprived of the opportunity of procreating children; (*f*) in whose case such other circumstances exist as may be specified in any order made by the Secretary of State, as being circumstances which make it desirable that they should be subject to be dealt with under this Act.

"(2) The following classes of persons shall be deemed to be defectives within the meaning of this Act:—(*a*) Idiots: that is to say, persons so deeply defective in mind from birth or from an early age as to be unable to guard themselves against common physical dangers; (*b*) Imbeciles: that is to say, persons who are capable of guarding themselves against common physical dangers, but who are incapable of earning their own living by reason of mental defect existing from birth or from an early age; (*c*) Feeble-minded persons: that is to say, persons who may be capable of earning their living under favourable circumstances, but are incapable, through mental defect existing from birth or from an early age,—(i.) of competing on equal terms with their normal fellows, or (ii.) of managing themselves and their affairs with ordinary prudence; (*d*) Moral imbeciles: that is to say, persons who from an early age display some mental defect coupled with strong vicious or criminal propensities on which punishment has little or no deterrent effect; (*e*) Mentally infirm persons: that is to say, persons who through mental infirmity arising from age or the decay of their faculties are incapable of managing themselves or their affairs."

In Clause 18 it is laid down that it shall be the duty of every overseer, relieving officer, district medical officer of any Poor-law union, medical officer of health, and constable who has any reason to believe that any person is a defective within the meaning of the Act, to notify the case to the local authority.

The principle of the manner in which defectives may be dealt with is enunciated in Clause 19. It lays down that "a defective subject to be dealt with under this Act may be (*a*) sent or transferred to and detained in an institution for defectives; or (*b*) placed under guardianship; but shall not be so dealt with otherwise than in pursuance of the provisions hereinafter contained."

Elaborate details have been introduced into Clause 20 which deals with the power to order defectives to be sent to institutions or placed under guardianship. The method of obtaining the order is to make a private application to a judicial authority. It must be supported with medical certificates. If the judicial authority is satisfied that the person to whom the petition relates is defective and is subject to be dealt with under this Bill, the judicial authority may make an order either ordering him to be sent to an institution for defectives, the managers of which are willing to receive him, or appointing a suitable person to be his guardian, and the order shall state the class of defectives to which he belongs, and the circumstances which render him subject to be dealt with under this Bill.

Powers are further given to the courts to make orders in respect to defectives who are brought before them on criminal charges. Other proposals in this part of the Bill regulate the transfer of defective prisoners to institutions, and also the transfer of defectives from institutions to asylums, and *vice versâ*. Provision is also made for the periodical review of the mental and bodily condition of the defective.

It appears from Part III. of the Bill that three categories of institutions for the reception of defectives are contemplated. In the first place the Secretary of State may establish and maintain institutions for defectives of criminal, dangerous, or violent propensities. In the next place the Commissioners have power to certify institutions for the reception, control, care, and treatment of defectives. Lastly, it is open to a local authority, subject to the approval of the Secretary of State, to undertake, or combine with any other local authority in undertaking the establishment or management of institutions for defectives. The local authority has the further power to contract with the managers of any certified institution for defectives or with a board of guardians for the reception and maintenance in the institution or workhouse of defectives. The visitors of licensed houses under the Lunacy Acts are to be the visitors of institutions for defectives under the Bill. Wide powers are vested in the Secretary of State by Clause 38 to make regulations as to the management of institutions for defectives.

It is laid down in Clause 41 that where a person is ordered to be sent or transferred to a certified institution for defectives it shall be the duty of the council of the county or county borough in which he resided to provide for his reception and maintenance in such an institution. However, this proposal is qualified by a provision that the council should not be under any such obligation with respect to any person unless the amount of the contribution payable out of moneys provided by Parliament towards the expenses of his maintenance is not less than 7*s.* a week. The Bill further contemplates the institution of Parliamentary grants-in-aid towards the administrative expenses of the measure.

Part IV. relates to offences, legal proceedings, and various miscellaneous matters. It is to be a misdemeanour to undertake for reward the care and control of more than two defectives elsewhere than in an institution or certified house. It is proposed to make it an offence to supply intoxicants to defectives contrary to a warning. Ill-treatment of defectives is also made punishable specifically as a misdemeanour.

Clause 50, which prohibits marriage with a defective, is certain to attract attention. It runs: "If any person intermarries with, or attempts to intermarry with any person whom he knows to be a defective within the meaning of this Act, or if any person solemnises or procures or connives at any marriage knowing that one of the parties thereto is a defective he shall be guilty of a misdemeanour."

Certain administrative changes in regard to the Lunacy Departments seem to be in contemplation by the first subsection of Clause 62, which reads as follows: "His Majesty may, on the recommendation of the Lord Chancellor and the Secretary of State, by Order in Council amalgamate the office of the Commissioners under this Act and their staff and the office of the Masters in Lunacy and their staff and the office of the Chancery visitors and their staff with the office of the Commissioners in Lunacy, and may by such Order give such directions as he may think fit for the reconstitution of the Commissioners in Lunacy and the exercise and performance by the Commissioners in Lunacy as so reconstituted of the powers and duties of the several bodies amalgamated by the Order and of their respective officers and staffs."

The Bill applies to England and Wales, and also to Scotland. A

clause adapting it to the legal circumstances of Scotland is included in it. The Bill does not apply to Ireland.

It is proposed to bring it into operation on Jan. 1st, 1913.

These are the main features of the Bill, but many of its elaborate details have been left untouched.

Feeble-Minded Persons (Control) Bill.

A useful purpose was served by the debate on Friday, May 17th, in the House of Commons on Mr. Stewart's Feeble-Minded Persons (Control) Bill, but the appearance of the Government's Bill dealing with defectives deprived it of a good deal of the interest which it would otherwise have had. Mr. STEWART, in moving the second reading of his Bill (the main terms of which were recently described in THE LANCET) drew attention to certain aspects of the problem of the feeble-minded. The interesting feature of the debate was the Home Secretary's speech. Mr. MCKENNA went on to say that there was no question that to a large class of the feeble-minded the greatest misery was the responsibility of liberty. If he was not able to give a very hearty welcome to the Bill it was because its particular proposal would hardly effect the object in view. The promoters had no means to provide the necessary homes. The Government had tabled a Bill which provided for a material contribution by the Exchequer for the purpose of providing homes. The Royal Commission on the Feeble-minded had laid down one or two fundamental principles which ought to be adopted in dealing with the problem of the mentally defective. The first was that where the special protection of the State was required it should be extended to all defectives whose need of care and control was urgent. The second was that it was necessary to search for and ascertain the mentally defective in order that the necessary protection might be provided, and the third was that there must be a powerful local authority charged with these duties of investigation and protection, and carry them out under the supervision and control of the central authority. The Government Bill dealt with the subject on a far more comprehensive scale than the measure before the House, and it was not merely the hope but the firm intention of the Government to proceed with their measure in the course of the present session. The Government Bill contained a promise of an Exchequer contribution of £150,000.

The Bill of Mr. STEWART was read a second time without a division.

HOUSE OF COMMONS.

WEDNESDAY, MAY 15TH.

Medical Women in India.

Mr. H. W. FORSTER asked the Under Secretary of State for India whether the Government of India had approved the scheme drawn up by Surgeon-General Sir C. P. Lukis, K.C.S.I., for the formation of a service of medical women for India; and, if so, when the scheme would come into operation.—Mr. MONTAGU replied: The answer to the first question is in the negative. The Government of India has under its consideration a scheme for the formation of a Women's Indian Medical Service, which was submitted to the Secretary of State by certain ladies interested in the practice of medicine; but they have not expressed their opinion upon it.

Mr. H. W. FORSTER: Can the right honourable gentleman say how soon the Government of India will come to a decision on this question?—Mr. MONTAGU: There is a considerable amount of interest manifested in it, and I telegraphed this morning asking when we might expect a reply.

Sanatorium Benefit in Ireland.

Sir THOMAS ESMONDE asked the Secretary to the Treasury what steps should be taken by Irish boards of guardians to obtain grants for the treatment of consumptive patients, either in sanatoriums or in the local infirmaries, or for making better provision for their treatment in connexion with the local infirmaries.—Mr. MASTERMAN furnished the following reply: Under Section 16 of the National Insurance Act local Insurance Committees are prohibited from making arrangements with Poor-law authorities for the treatment of insured persons. With regard to the distribution to local authorities or other bodies of the sum available for the provision of, or making grants in aid to, sanatoriums and other institutions in accordance with Section 64 of the National Insurance Act, and Section 16 of the Finance Act, 1911, I understand that the Irish Local Government Board is preparing a circular to be addressed to county councils in Ireland dealing with the subject.

Miners' Nystagmus.

Mr. LYNCH asked the Secretary of State for the Home Department whether he was aware that last year 1618 men in the United Kingdom received compensation in regard to miners' nystagmus, and that in a paper presented to the Royal Society Dr. Llewellyn attributed the disease in great part to defective light; and whether he would take steps to have the whole question of the illumination of mines investigated, as, for example, by a special commission.—Mr. MCKENNA wrote in reply: The figure in the question is that for 1910, as given in the Home Office statistics. The figure for 1911 is not yet available. I am aware of Dr. Llewellyn's researches, and understand they are still being continued. The illuminating power of miners' lamps is one of the matters which will be taken into account in approving lamps under the provisions of the new Coal Mines Act, and the point is under the consideration of the committee which is now engaged in formulating the test. I also hope that the competition which is now proceeding for the prize for the best electric miners' lamp will greatly help towards an improvement in the illumination of mines. I do not think that there is a case for instituting a further special inquiry at the present time.

The Notification of Ophthalmia Neonatorum.

Mr. H. LAWSON asked the President of the Local Government Board whether he had considered the expediency of making ophthalmia a notifiable disease under the Infectious Diseases (Notification) Act, involving as it did infectious inflammation of the cornea; and whether, seeing that this course would lead to the discovery of many cases which, if they were not dealt with in the first stage, conduced to blindness and a charge upon public funds and private charity, he would issue an Order to that effect.—Mr. BURNS furnished the following reply: I have been willing to approve orders extending the application of the Infectious Disease (Notification), 1889, to ophthalmia neonatorum, and such orders have now been made in respect of 179 districts. I shall be glad to see the practice of making this disease notifiable still further extended, and any application for approval of an Order to that end which I may receive from any local authority will be sympathetically considered.

WEDNESDAY, MAY 22ND.

Medical Men and the Insurance Act.

In the debate on the motion for the adjournment of the House for the Whitsun holidays—

Mr. MASTERMAN (Secretary to the Treasury) mentioned that "most friendly and amicable negotiations were at present proceeding between the representatives of the medical men on the Advisory Committee and the Insurance Commission." He added that he would say nothing which would give to these negotiations a less favourable outlook.

BOOKS, ETC., RECEIVED.

ADLARD AND SON, London.

The Bradshaw Lecture on Some Points in Heredity. Delivered before the Royal College of Surgeons of England on Dec. 6th, 1911. By R. Clement Lucas, B.S., M.B. Lond., F.R.C.S., Consulting Surgeon to Guy's Hospital and to the Evelina Hospital for Children. Price 2*s*.

AMERICAN MEDICAL ASSOCIATION, 535, Dearborn-avenue, Chicago.

New and Non-official Remedies, 1912. Containing Descriptions of the Articles which have been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association prior to Jan. 1st, 1912. Price not stated.

BAILLIÈRE, TINDALL, AND COX, London.

Systematic Case-Taking. A Practical Guide to the Examination and Recording of Medical Cases. For the Use of Medical Students. By Henry Lawrence McKisack, M.D., M.R.C.P. Lond., Physician to the Royal Victoria Hospital, Belfast. Price 3*s*. 6*d*. net.

CHURCHILL, J. AND A., London.

Allen's Commercial Organic Analysis. Volume VI. Fourth edition. Entirely rewritten. Edited by W. A. Davis, B.Sc., A.C.G.I., formerly Lecturer and Assistant in the Chemical Research Laboratory, City and Guilds College, Imperial College of Science and Technology, London; and Samuel S. Sadtler, S.B., Vice-President of the American Electro-Chemical Society; Member, American Institute of Chemical Engineers. Price 21*s*. net.

Harelip and Cleft Palate, with Special Reference to the Operative Treatment and its Results. By James Berry, B.S. Lond., F.R.C.S., Senior Surgeon to the Royal Free Hospital, London; Consulting Surgeon to the Alexandra Hospital for Children with Hip Disease; and T. Percy Legg, M.S. Lond., F.R.C.S., Surgeon to the Royal Free Hospital, Assistant Surgeon to King's College Hospital. Price 12*s*. 6*d*. net.

CLARENDON PRESS, Oxford.

Practical Exercises in Physiological Optics. By George J. Burch, M.A., D.Sc. Oxon., F.R.S. Price 4*s*. net.

FISCHER, GUSTAV, Jena

Handbuch der Pathogenen Mikroorganismen. Herausgegeben von Dr. W. Kolle und Dr. A. von Wassermann. Zweite vermehrte Auflage. Achte und neunte Lieferung (Bd. V., Bogen 1-15). Preis jeder Lieferung M.5.

GREEN, WILLIAM, AND SONS, Edinburgh and London.

The Skiagraphy of the Accessory Nasal Sinuses. By A. Logan Turner, M.D., F.R.C.S.E., F.R.S.E., Surgeon to the Ear and Throat Department, the Royal Infirmary, Edinburgh; Lecturer on Diseases of the Ear, Nose, and Throat, University of Edinburgh; and W. G. Porter, M.B., B.Sc., F.R.C.S.E., Surgeon to the Eye, Ear, and Throat Infirmary, Edinburgh. Price 10*s*. 6*d*. net.

HOULSTON AND SONS, 7, Paternoster-buildings, London. MENZIES, JOHN AND CO., Edinburgh and Glasgow.

The Ambulance Vade-Mecum. J. F. Sutherland's "First-Aid" to Injured and Sick. Edited by Halliday Sutherland, M.D. 37th edition—40,000. Revised and enlarged by the late Author. Price 3*d*.

KARGER, S., Berlin.

Theorie und Praxis der Inneren Medizin. Ein Lehrbuch für Studierende und Aerzte. Von Dr. Erich Kindborg, in Bonn. Zweiter Band. Die Stoffwechselstörungen. Die Krankheiten des Bewegungsapparates und der Verdauungsorgane. Price M.10.

Zur Kenntnis des Uteruskarzinoms. Monographische Studie über Morphologie, Entwicklung, Wachstum, nebst Beiträgen zur Klinik der Erkrankung. Von Dr. J. Schottlaender, a.o. Professor und Vorstand des Laboratoriums der II. Frauenklinik an der Universität Wien, und Dr. F. Kermauner, Privat-dozent an der Universität Wien. Price M.42.

Die Ulnaris-Lähmung. Monographische Studie als Beitrag zur Klinik der peripherischen Nerven-Erkrankungen. Von Dr. Kurt Singer in Berlin. Mit einem Vorwort von Geh. Med.-Rat Prof. Dr. Ziehen. Price M.4.

Die Tabes der Frauen. Von Kurt Mendel und Ernst Tobias in Berlin. Price M.2.50.

Die Entstehung der Kurzsichtigkeit. Von Dr. Georg Levinsohn, Privat-Dozent für Augenheilkunde an der Universität Berlin. Price M.2.50.

KLINKHARDT, DR. WERNER, Leipzig.

Leitfäden der praktischen Medizin. Herausgegeben von Professor Dr. Ph. Bockenheimer, Berlin. Band V. Klinische Bakteriologie und Protozoenkunde. Von Dr. Julius Citron, Assistenten der II. Medizinischen Klinik der Universität Berlin. Price, paper, M.6.40; bound, M.7.20.

Handbuch der Serumtherapie und Serumdiagnostik in der Veterinär-Medizin. Herausgegeben von Dr. M. Klimmer, ord. Professor, Direktor des hygienischen Instituts und der Seuchenversuchsanstalt an der tierärztlichen Hochschule in Dresden, und Dr. A. Wolff-Eisner, Arzt für innere Krankheiten und Vorsteher der bakteriologischen Abteilung des städtischen allegemeinen Krankenhauses Friedrichshain-Berlin. (Band II. vom Handbuch der Serumtherapie). Price, paper, M.18; bound, M.20.

Appointments.

Successful applicants or Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ASHBY, HUGH T., M.B., B.C. Cantab., M.R.C.P. Lond., has been appointed Honorary Assistant Physician to the Salford Royal Hospital.

BARRACLOUGH, H. C., M.B., B.S. Cantab., has been appointed Medical Officer for the Kessingland District of the Mutford and Lothingland Board of Guardians

BEDALE, F. S., M.R.C.S., L.R.C.P., has been appointed House Physician at the Manchester Royal Infirmary.

DAVIES, J. L., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician at University College Hospital.

DEWAR, ALLAN, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at St. Bartholomew's Hospital, Rochester.

DUGGAN, N., M.B., Ch.B. Vict., has been appointed Junior House Surgeon at the Manchester Royal Infirmary.

FERGUSON, RALPH SANDERSON, M.B., C.M. Edin., has been appointed Medical Officer for the First District and Workhouse by the Calne (Wilts) Board of Guardians.

FLOOD, CHARLES, L.A.H. Dub., L.R.C.S. Irel., has been appointed Medical Officer for the whole District by the Strood Rural District Council.

GAITSKELL, CHARLES EDWARD, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Lympstone District by the St. Thomas (Exeter) Board of Guardians.

KAUNTZE, W. H., M.B., Ch.B. Vict., has been appointed Senior House Surgeon at the Manchester Royal Infirmary.

LEA, C. E., M.D Vict., has been appointed Medical Registrar at the Manchester Royal Infirmary.

MATTHEWS, N., M.B. Ch.B Vict., has been appointed Junior House Surgeon at the Manchester Royal Infirmary.

RADLEY, S. B., M.B., Ch.B. Vict., has been appointed Senior House Surgeon at the Manchester Royal Infirmary.

RIDDELL, DAVID, M.D. Glasg., has been appointed Honorary Surgeon to Westmorland County Hospital, Kendal.

SCOTT, JAMES M., M.B., Ch.B. Edin., has been appointed House Physician at the Manchester Royal Infirmary.

STEWART, ROGER, M.R.C.S., L.R.C.P., has been appointed House Physician at the Manchester Royal Infirmary.

TELLING, W. H. MAXWELL, M.D., B.S. Lond., M.R.C.P. Lond., M.R.C.S., has been appointed Honorary Physician to the Leeds General Infirmary.

THOMPSON, G. K., M.B., Ch.B. Vict., has been appointed House Surgeon to the Special Department of the Manchester Royal Infirmary.

THYNE, W., M.A., M.D. Edin., has been appointed Medical Officer and Public Vaccinator of the Hallaton District of the Uppingham Union and the Sixth District of the Market Harborough Union.

TYLECOTE, FRANK EDWARD, M.D., D.P.H. Vict., M.R.C.P. Lond., has been appointed Honorary Physician to the Salford Royal Hospital.

VLASTO, M., M.B., B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at University College Hospital.

WELLS, A. G., M.B. Lond., D.P.H., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant in the Ear and Throat Department of University College Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANGOR, CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.

BEDFORD, BEDFORDSHIRE COUNTY COUNCIL.—Assistant School Medical Officer and Deputy County Medical Officer of Health. Salary £300 per annum.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BRADFORD ROYAL EYE AND EAR HOSPITAL.—House Surgeon (Male non-resident or Female resident).

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—Assistant House Surgeon, unmarried. Salary £80 per annum, with apartments, board, and laundry.

BRISTOL GENERAL HOSPITAL.—House Physician for six months. Salary £80 per annum, with board, residence, &c.

BRIXTON DISPENSARY, Water-lane, S.W.—Resident Medical Officer, unmarried. Salary £150 per annum, with apartments, attendance, &c.

BURY INFIRMARY.—Senior House Surgeon and Junior House Surgeon. Salary £110 and £80 per annum respectively, with board, residence, and washing.

CARMARTHEN, JOINT COUNTIES ASYLUM.—Second Assistant Medical Officer. Salary £160 per annum, with board, lodging, washing, &c.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—Resident House Surgeon Salary £50 per annum, with board and residence. Also Registrar. Also Clinical Assistants.

CHARING CROSS HOSPITAL.—Assistant Surgeon. Also Assistant Obstetric Physician.

CHELSEA INFIRMARY, Cale-street, S.W.—Second Assistant Medical Officer. Salary £120 per annum, with board, washing, apartments, &c.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £80 per annum, with board, apartments, and laundry.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Physician to Out-patients.

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—Resident Medical Officer for four months. Salary at rate of £50 per annum, with board, lodging, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—Senior House Surgeon. Salary £120 per annum, with rooms, board, washing, and attendance.

CROYDON BOROUGH HOSPITAL.—Assistant Resident Medical Officer. Salary £120 per annum, with board, lodging, and washing.

DONNYBROOK, DUBLIN, ROYAL HOSPITAL FOR INCURABLES.—Resident Medical Officer, unmarried. Salary £120 per annum, with board and apartments.

DORCHESTER, COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £160 per annum, with board, &c.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £55 per annum, with board and washing.

DUNDEE DISTRICT ASYLUM.—Senior Resident Medical Officer and Junior Resident Medical Officer. Salary £175 and £120 per annum respectively, with board and apartments.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Medical Officer to the Casualty Department for six months. Salary at rate of £100 per annum, with luncheon and tea. Also Second Medical Officer to Casualty Department for six months. Salary at rate of £40 per annum, with luncheon and tea.

FOLKESTONE, ROYAL VICTORIA HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

GLASGOW MATERNITY AND WOMEN'S HOSPITAL (OBSTETRICAL DEPARTMENT).—Two Outdoor House Surgeons and Outdoor House Surgeon at West-end Branch for three months.

GLOUCESTER, GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—House Surgeon, unmarried, for six months. Salary £30, washing allowance, and board and residence.

HUDDERSFIELD ROYAL INFIRMARY.—Assistant House Surgeon. Salary £80 per annum, with board, residence, and laundry.

INDIAN MEDICAL SERVICE, India Office, London.—Twelve Commissions.

INVERNESS DISTRICT ASYLUM.—Junior Assistant Physician. Salary £150 per annum, with board, lodging, and laundry.

ISLE OF MAN LUNATIC ASYLUM.—Assistant Medical Officer, unmarried. Salary £175 per annum, with board, quarters, and washing.

ITALIAN HOSPITAL, Queen-square, W.C.—House Surgeon for six months. Salary £60 per annum, with board and residence.

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL.—House Physician. Salary £85 per annum, with board, residence, and laundry.

LEEDS GENERAL INFIRMARY.—Resident Obstetric Officer and House Physician for six months. Board, residence, and washing provided. Also Resident Surgical Officer. Salary £150 per annum, with board, residence, and washing. Also Resident Medical Officer at Ida and Robert Arthington Hospitals for six months. Salary £30, with board, residence, and washing.

LEICESTER INFIRMARY.—Assistant House Physician for six months. Salary at rate of £80 per annum, with board, apartments, and washing.

LIVERPOOL DISPENSARIES.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

LONDON LOCK HOSPITAL.—House Surgeon and Assistant House Surgeon to Female Hospital. Salary £100 and £80 per annum respectively, with board, lodging, and washing. Also House Surgeon to Male Hospital. Salary £100 per annum, with board, lodging, and washing.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.—Lecturer and Head of Department of Anatomy.

MACCLESFIELD GENERAL INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with board and residence.

MANCHESTER CHILDREN'S HOSPITAL, Gartside-street.—Non-resident Medical Officer. Salary £180 per annum.

MANCHESTER ROYAL INFIRMARY.—Assistant Medical Officer, unmarried, to Convalescent Home, Cheadle, for six months. Salary at rate of £80 per annum, with board and residence. Also Assistant Director in Clinical Laboratory. Salary £75 per annum. Also Three Assistant Medical Officers. Salary £35 per annum.

MANCHESTER WORKHOUSE, Crumpsall.—Junior Resident Assistant Medical Officer, unmarried. Salary at rate of £110 per annum, with rations, apartments, attendance, &c.

MELBOURNE UNIVERSITY, Victoria, Australia.—Chair of Veterinary Pathology and Directorship of the Veterinary Institute. Salary £900 per annum.

METROPOLITAN ASYLUMS BOARD, INFECTIOUS HOSPITALS SERVICE.—Junior Assistant Medical Officers, unmarried. Salary £180 per annum, with board, lodging, and washing.

MIDDLESEX HOSPITAL, W.—Second Assistant to Director of Clinical and Bacteriological Laboratories. Salary £100 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—House Physician. Salary £75 per annum, with board, residence, and washing. Also House Physician at Northwood. Salary £75 per annum, with board, residence, and washing.

NATIONAL INSTITUTIONS FOR PERSONS REQUIRING CARE AND CONTROL.—Superintendents at two Country Institutions. Salary £300 per annum, with house and garden.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160 per annum.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House Physician and House Surgeon. Salary £80 and £60 per annum respectively, with board, residence, and laundry.

NORTHAMPTON GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £90 per annum, with apartments, board, washing, and attendance.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £160 per annum, with apartments, attendance, light, and fuel.

PARISH OF ST. GILES WORKHOUSE, Constance-road, East Dulwich, S.E.—Locum Tenens for Medical Officer for four weeks. Salary at rate of 6 guineas weekly, with board, lodging, and washing.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Senior House Surgeon. Salary at rate of £135 per annum, with board and residence.

POWICK, COUNTY AND CITY ASYLUM, Worcester.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, washing, and attendance.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Junior House Physician. Salary £50 per annum, with residence, board, and laundry.

PUBLIC DISPENSARY, 122, Drury-lane, W.C.—Resident Medical Officer, unmarried. Salary £105 per annum, with apartments, attendance, coals, and light.

QUEEN CHARLOTTE'S LYING IN HOSPITAL, Marylebone-road, N.W.—Resident Medical Officer for four months. Salary at rate of £60 per annum, with board, residence, and washing.

ROYAL EYE HOSPITAL, St. George's-circus, S.E.—Junior House Surgeon for six months. Salary at rate of £50 per annum, with board and residence.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—Two Honorary Assistant Surgeons.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Resident House Surgeon. Salary £80 per annum, with board and residence.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £100 per annum, with board, residence, &c.

SHEFFIELD EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £250 per annum.

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN.—Assistant House Surgeon. Salary £40 per annum.

SHEFFIELD ROYAL HOSPITAL.—Sixth Resident, unmarried. Salary £60 per annum, with board, lodging, and washing.

SHEFFIELD ROYAL INFIRMARY.—Ear and Throat House Surgeon. Salary £70 per annum.

SHEFFIELD UNIVERSITY.—Demonstrator in Anatomy. Salary £150 per annum.

SINGAPORE, STRAITS SETTLEMENTS, INFECTIOUS DISEASES HOSPITAL.—Resident Medical Officer. Salary £400 per annum, with free quarters.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—House Surgeon. Salary £120 per annum, with board, residence, and laundry. Also House Physician. Salary £100 per annum, with board, residence, and laundry.

TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House Physician, unmarried. Salary £100 per annum, with board, residence, &c.

WADSLEY, SOUTH YORKSHIRE ASYLUM.—Locum Tenens Assistant Medical Officer. Salary £4 4s. per week, with apartments, board, and attendance.

WAKEFIELD GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £100 per annum, with board, lodgings, and washing.

WALSALL AND DISTRICT HOSPITAL.—House Physician and Casualty Officer. Salary £90 per annum, with board, residence, and laundry.

WARRINGTON COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary £250 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary at rate of £100 per annum, with board, lodging, and laundry.

WEST LONDON HOSPITAL.—Physician. Also Non-resident Casualty Officer for six months. Salary at rate of £100 per annum, and lunch. Also House Physician for six months. Board, lodging, and laundry provided.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician. Salary £80 per annum.

WOMEN'S HOSPITAL FOR CHILDREN, 688, Harrow-road, N.W.—Two Female Clinical Assistants for six months.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Calne, in the county of Wilts; at Lasswade, in the county of Edinburgh; and at Kingston-on-Thames, in the county of Surrey.

Births, Marriages, and Deaths.

BIRTHS.

LYLE.—On May 20th, at Eversley, Elmfield-road, Bromley, Kent, the wife of H. Willoughby Lyle, M.D. Lond., F.R.C.S., of a daughter.

YOUNG.—On May 14th, at Waterloo-crescent, Dover, the wife of F. P. Young, M.D., of a son.

MARRIAGES.

WETWAN—NICOLAS.—On May 16th, in London, William Albert Wetwan, M.R.C.S. Eng., of Bridlington, to Isiline Nicolas, youngest daughter of the late Joseph Garside, of Carlton House, Worksop.

DEATHS.

GIBSON.—On May 14th, at Hilcote, Constitution Hill, Parkstone, Dorset, James Hill Gibson, M.D., aged 56 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A PATENT PILL.

A CONTEMPORARY has described the effects wrought in a fashionable district of London by the action of a patent pill recently distributed in its midst. The urine of those who took these pills turned a deep green, and, though no harm at all seems to have been done, there were many searchings of heart, both among medical men and their patients, the victims concerned. To the inquiring mind it is not important that on April 13th a party of magnificent-looking gentlemen, wearing tweed suits and high hats, and apparently hailing from the United States of America, distributed boxes of pills containing methylene dye in Kensington. The real point of interest to the student of medico-social history is the manner in which these pills were taken, for it illustrates the antiquity of the human attitude towards all drugs. A savage who takes a medicine, or the decoction that passes for medicine among savages, doubtless does so in secret, and he probably tells no one of what he has done for fear of spoiling the efficacy of a magical dose. One of the Kensington patients does not seem to have advanced beyond this course of conduct, for she twice solemnly denied having taken anything, although her urine bewrayed her. A further advance in the popular attitude towards the Pharmacopœia is illustrated by a sister Abigail, who takes the whole box of pills at one gulp on the principle that you can never have enough of a good thing. This proceeding recalls the tale of the old lady who periodically mixed together all the dregs of all the medicine bottles in her house, and, holding her nose, swallowed the draught and then prayed thus: "O Almighty God, turn to a good use the effects of this nauseous mixture!" So long, of course, as these semi-savage beliefs in the efficacy of drugs, or the manner of taking them, remain *coram populo*, so long will it be well-nigh impossible to abolish quackery. It is the mystical element in drug-taking which still forcibly appeals to the masses.

PROLONGED ADHERENCE OF THE UMBILICAL CORD.

Mr. Israel J. E. Renshaw, F.R.C.S. Edin., of Sale, reports the following unusual case occurring in his practice. A male child was born on March 16th last. The umbilical cord had no abnormal appearances, but did not fall off until May 2nd, the forty-seventh day. The baby is the first child of apparently healthy parents. The case deserves to be recorded, because it is extremely uncommon for the cord to remain on so long.

AN OFFER TO INSTITUTIONS.

THE committee of the Kingston-upon-Thames Victoria Hospital, 46, Beaufort-road, Kingston-on-Thames, ask us to announce that they are prepared to present an electric bath to a hospital or similar institution that could make good use of it. The bath is in perfect condition as fitted, and good as new, but the room is required for other purposes.

INVALID BED-CARRIAGE.

Mr. J. D. Stewart, ex-warrant officer, R.A.M.C., of 9, Brook-street, Riverside, Cardiff, writes:—"I designed a bed-carriage for a young bed-ridden invalid working man, who died before it was finished, and his widow is now desirous of selling it. It was specially designed to be used both as a bed and carriage, and can be lifted off the springs and carried (with the patient in it). It is fitted with a specially constructed wire mattress, with a hair mattress of the finest quality laid on the top, so there is no reason to move a patient who may be paralysed. Another advantage is that both sides let down, and this arrangement enables the nurse to do anything in the way of dressings or cleaning the patient's body. If desirable, the patient can be lifted from the carriage on the wire stretcher and mattress to a bed. As the young man had lain practically in the one position for nearly five years, and had never been out of doors, at the request of his father, the patient himself, and his wife, I designed the carriage, and now I am doing my best to sell it for them. The original cost was £11 10s., and they are willing to sell it for £9 net. It has never been used, and is therefore in the exact condition in which it came from the carriage builder."

THE "CYCLONIER" PUNCTURE REMEDY.

MANY of the readers of THE LANCET are bicycle-riders, and they will be interested in a very ingenious method which has recently been brought to our notice by Messrs. Thos. Christy and Co., of 4-12, Old Swan-lane, London, E.C., of preventing a tyre puncturing or healing a puncture automatically as soon as it is made. The method is quite novel to us, and consists in pouring through the valve into the air tube a certain quantity of a dull grey powder, and following this up with an equal volume of water (about a couple of fluid ounces). Of course, whilst the wheel revolves, this wet mixture is constantly in contact with all parts of the inner surface of the tyre, and when a puncture occurs some air rushes out, but not for very

long, for the ingredients of the wet powder almost immediately and effectually fill the gap and there is very little reduction in the tightness of the tyre. It is essential at the moment of puncture that the wheel should be going round, but, of course, that is always the case in practice. We have put a tyre through some very severe tests and the result has in every case been most satisfactory.

HAY FEVER REACTION OUTFIT.

WE have received from Messrs. Parke, Davis, and Co., Beak-street, Regent-street, London, W., a case containing pollen dilutions and vaccines used in the diagnosis, prevention, and treatment of hay fever. The outfit contains seven strengths of pollen extract in capillary tubes with apparatus for instilling the extract on to the mucous membrane of the eye. We have also received a specimen of pollen vaccine for hay fever, 1 c.c. of which contains 20 units of pollen extract. The extract is made from the pollen of *Phleum pratense*.

A CORRESPONDENT writing from Cork has failed to enclose his name with the obituary notice which he sends

H. M.-B. should consult his medical attendant; there is no suitable book.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced for May and June:—

May 22nd-30th (London, Chelsea).—Royal International Horticultural Exhibition.
„ 23rd-June 8th (London, Olympia).—Royal Naval and Military Tournament.
„ 25th (opens) (London, Shepherd's Bush).—Latin-British Exhibition.
„ 25th-27th (Paris).—International Musical Festival.
„ 26th-28th (Paris).—National Conference of the "Gouttes de Lait."
Whitsuntide (Portrush).—British Esperanto Congress.
May 27th-June 1st (London).—Eighteenth International Congress of Americanists.
„ 28th-30th (Berlin).—Meeting of German School Medical Officers.
„ 29th-31st (Berlin).—Fifteenth Session of the German Society for Gynæcology.
May to October (London, Earl's Court).—Shakespeare's England.
June 1st and 3rd (Atlantic City, N.J.).—American Medical Editors' Association.
„ 3rd and 4th (Atlantic City, N.J.).—Fourteenth Annual Meeting of the American Proctologic Society.
„ 3rd-10th (Salford).—Tuberculosis Exhibition.
„ 5th-7th (Manchester).—National Association for the Prevention of Consumption (Annual Conference).
„ 6th-12th (Bristol).—Health Conference and Exhibition.
„ 11th-14th (Caxton Hall, Westminster).—Second National Conference on the Prevention of Destitution.
„ 12th-22nd (London).—Missionary Exhibition.
„ 17th-29th (London, Olympia).—International Horse Show.
„ 21st and 22nd (Middelburg).—Dutch Congress for Public Health Regulations.
„ 23rd-27th (London, Royal Horticultural Hall).—The (Biennial) Health Conference and Exhibition.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 22nd, 1912.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 16	29·64	N.W.	0·30	119	60	49	48	52	Cloudy
„ 17	30·01	N.W.	0·05	110	62	46	48	53	Cloudy
„ 18	30·02	W.	...	124	65	51	53	57	Cloudy
„ 19	30·03	S.W.	...	124	66	52	54	58	Fine
„ 20	29·83	S.	...	118	69	52	55	59	Cloudy
„ 21	29·78	WSW	...	107	64	50	51	57	Cloudy
„ 22	29·63	S.W.	0·01	108	65	56	56	59	Raining

The following journals, magazines, &c., have been received:—China Medical Journal, Bulletin of the Office International d'Hygiène Publique, Journal d'Urologie, Recueil d'Ophtalmologie, Indian Ambulance Gazette, South African Medical Record, Indian Medical Record, Bulletin of the Johns Hopkins Hospital, Therapist, Journal of Nervous and Mental Disease, Archiv für Experimentelle Pathologie und Pharmakologie, Tuberculosis, London Hospital Gazette, American Medicine, Revue de Psychiatrie, Medical Review of Reviews, Albany Medical Annals, Cleveland Medical Journal, Interstate Medical Journal, Pacific Medical Journal, Transactions of the United Services Medical Society, Canadian Practitioner and Review, St. Thomas's Hospital Gazette, Science Progress, Medical Review.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—T. R. Whipham, H. S. Clogg, Percy G. Lewis): at 5 P.M.

Annual General Meeting—Election of Officers and Council for the ensuing Session.

There will be no Provincial Meeting of the Section this year.

CLINICAL SECTION (Hon. Secretaries: James Galloway, Charles H. Fagge): at 8.30 P.M.

Annual General Meeting—Election of Officers and Council for the ensuing Session.

Demonstration of Cases:

Dr. Rupert Farrant: ? Early Acromegaly.
Dr. Frederick Langmead: Case of Thoracic Aneurysm Unconnected with the Aorta in a Woman.
Mr. Walter G. Spencer: Relief after Bilateral Nephrotomy for Acute Nephritis attended by Suppression of Urine and Uræmic Convulsions.
Mr. Paul B. Roth: Two Cases of Osteo-chondritis of the Tibia in Congenital Syphilis.
Dr. James Galloway: (1) Myotonia Congenita; (2) Diffuse Sclerodermia in an Adult; (3) Transposition of Viscera.
Dr. Archibald E. Garrod, F.R.S.: Case of Sulph-hæmoglobinæmia.
Dr. Robert Hutchison: Case of Cervical Glandular Enlargement of Doubtful Nature.
Mr. Wilfred Trotter: Severe Persistent Pain Treated by Division of Posterior Nerve Roots.
Mr. C. H. Fagge: Case of Ununited Fracture of the Ulna Treated by Bridging the Gap with a Slice Sawn from the Tibia.
Mr. D. C. L. Fitzwilliams: Girl with Multiple Arthritis.
Mr. F. J. Steward: Case of Syphilitic Disease of Thyroid Gland causing Tracheal Obstruction.

Paper:

Dr. Johnston-Lavis: Case of Gonococcal Empyema.

EPIDEMIOLOGICAL SECTION (Hon. Secretaries—W. H. Hamer, G. S. Buchanan): at 8.30 P.M.

NOTE.—This Meeting will be held at 11, Chandos-street, W.

Annual General Meeting—Election of Officers and Council for the ensuing Session.

Discussions

On Dr. Rundle's paper on Bed Isolation (adjourned from previous meeting).
On Hypersensitiveness (to be opened by Dr. E. W. Goodall).

SATURDAY.

BALNEOLOGICAL AND CLIMATOLOGICAL SECTION (Hon. Secretaries—A. Manuel, F. A. de T. Mouillot).

Annual Provincial Meeting at Woodhall Spa.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

THURSDAY.—5 P.M., Dr. P. Kidd: Some Moot Points in the Pathology and Clinical History of Pneumonia. (Lumleian Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

TUESDAY.—4 P.M., Dr. A. Jex-Blake: Clinique (Medical). 5.15 P.M., Lecture:—Mr. A. E. J. Barker: On Some of the Less Common Tumours of the Neck.
WEDNESDAY.—4 P.M., Mr. M. White: Clinique (Surgical). 5.15 P.M., Lecture:—Sir George H. Savage: Relationship of Fits to Mental Disorder.
THURSDAY.—4 P.M., Mr. A. Carless: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. E. L. Evans: Sprains.
FRIDAY.—4 P.M., Mr. S. Hastings: Clinique (Ear, Nose, and Throat)

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11 A.M., Mr. Etherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. R. Jones: Types of Insanity.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Mr. Morton: The Principles of Radiotherapy.
THURSDAY.—10 A.M., Dr. Simson: Gynæcological Demonstration. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.
FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. R. Lloyd: Administration of Anæsthetics.
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. Bishop Harman: Diseases of the Eye. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. H. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).

TUESDAY.—Clinic: 2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld).; Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Mr. W. Steuart); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 4.30 P.M.. Special Demonstration:—Mr. W. Steuart: Cases Illustrating (1) the Treatment of Ringworm by X Rays; (2) the Diagnosis of Pulmonary Tuberculosis by the Screen and Skiagram. 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Special Demonstration:—Dr. T. R. Whipham. Cases of Children's Diseases.

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. H. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.30 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 3.15 P.M., Dr. R. Wells: Medicine. 2.15 P.M., Mr. R. Carling: Surgery. 4.15 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4.30 P.M., Mr. W. Steuart: Radiography.

FRIDAY.—11 A.M., Dr. A. Davies: Pathological Demonstration. 2 P.M., Operations. 2.15 P.M., Sir J. Rose Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—Out-patient Demonstration:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Mr. P. Sargent: Surgery of the Nervous System.

FRIDAY.—3.30 P.M., Clinical Lecture:—Mr. S. Scott: Cerebellar Abscess Secondary to Otitis.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4 P.M., Dr. Wall: Experience of the Dioradin Treatment.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (29th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's 2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (30th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M., Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.)., Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (1st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.), Hospital operations are performed daily.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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